

**GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORTS**

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**1995  
GEOCHEMICAL AND DIAMOND DRILLING  
REPORT ON THE PEN PROPERTY**

**Nicola, Osoyoos and Similkameen Mining Divisions, B.C.**

**NTS: 92H/16E & 82E/13W**

**Lat 49°53'N; Long 120°02'W**

**June, 1996 (BC '95 ASSESSMENT)**

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ASSESSMENT REPORT**

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NTS: 92H/16E & 82E/13W  
Lat 49°53'N; Long 120°02'W**

**June, 1996 (BC '95 ASSESSMENT)**

**For**

**FAIRFIELD MINERALS LTD.  
Vancouver, British Columbia**

**by**

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**Date Submitted: June 1996  
Field Period: June 10 - August 19, 1995**

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(In pocket)

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## 1.0 SUMMARY AND CONCLUSIONS

The Pen property, located 42 kilometres west of Kelowna, B.C., originally comprised 37 claims (310 units) in the Nicola, Similkameen and Osoyoos Mining Divisions. During 1994 and 1995, a total of 190 units were allowed to lapse, reducing the property size to 120 units in 28 remaining claims. The claims, staked in 1990 and 1991, are owned 100 percent by Fairfield Minerals Ltd. Ongoing exploration, conducted by Company personnel, is focusing on gold mineralization hosted in a variety of rock types.

The Okanagan Connector Highway (97C) passes near the northern claims and numerous logging roads traverse the property providing excellent access. Moderately steep-sided Pennask Mountain underlies much of the previous western claims; flatter terrain to the east is cut by a steep canyon along Peachland Creek. Bedrock exposure is abundant at higher elevations and in creek canyons, but scarce on lower slopes.

Previous work in the area has included extensive exploration for copper-molybdenum in the late 1960's during development of the Brenda deposit immediately to the east. Fifteen kilometres to the west, on the Elk property, Fairfield has mined over 50,000 ounces of gold from a high-grade vein system in a similar geological setting to that on the Pen claims. A current reserve of over 100,000 ounces gold at Elk remains open to expansion.

The Pen property is underlain predominantly by a large pendant of Triassic volcanics and sediments in contact to the east with a Jurassic granodiorite batholith and intruded, to the west, by a small dioritic stock of unknown age. Younger, porphyritic intrusions are also locally exposed. A considerable number of quartz vein occurrences have been discovered principally within volcanic and intrusive host rocks, and small sulphide hornfels/skarn pods have been found in metasedimentary rocks.

Grab samples from the widely scattered mineral showings have returned many significant gold values ranging from 0.03 to over 1.0 oz/ton ( $\geq 1$  g/T to over 35 g/T). Observed quartz veins are generally narrow and irregular, with variable attitudes. Limonite and hematite are common constituents. Overall sulphide contents are low, however local concentrations of pyrite, pyrrhotite, chalcopyrite, molybdenite, arsenopyrite, galena, sphalerite, tetrahedrite (?), silver sulphosalts (?) and bismuth minerals have been noted.

Wide-spaced and fill-in (50m x 50m) grid soil sampling undertaken from 1990 to 1994 provided 6529 samples which were analyzed for gold, defining several targets within four broad areas of gold enrichment containing many sites with values greater than 50 ppb, up to a high of 930 ppb Au. Further sampling in 1995 consisted almost entirely of additional fill-in, mainly on the central and southeastern claims which cover two of these areas and encompass the strongest distribution of anomalies. This work generated another 768 soils, for a total to date of 7297. Forty sites of anomalous gold, from 20 to 1250 ppb, and an additional 52 sites with threshold values of 10-20 ppb were identified. These values have further delineated and/or extended some of the existing gold geochemical trends.

Soil anomaly evaluation and follow-up by prospecting included the collection of 6 reconnaissance rock samples which were tested for 30 elements. Three of the samples returned anomalous to very high gold values comprising averaged analyses of 275 ppb, 1720 ppb and 105500 ppb ( $>3$  oz/ton). These results indicate new mineral occurrences, two of which are peripheral to the 1994 trench sites near Brenda Lake, on the PEN 10 claim. The other occurrence, represented by quartz breccia float that analysed 1720 ppb Au, was found at one end of a 1700-metre long gold soil anomaly trend on the southeastern claims (PEN 14 & 15).

Initial diamond drilling was undertaken to obtain geological information and to test for continuity of high grade vein showings exposed in one of the 1994 trenches (PE94-1) near Brenda Lake. Five short, NQ size, holes totalling 124.05 m (407 ft.) were completed. Four of the holes encountered one or more diorite-hosted quartz or quartz-calcite veins having individual thicknesses of up to 35 cm. Just three of fourteen vein intercept samples yielded only geochemically significant gold values of >100 ppb up to ~650 ppb (0.004 - 0.019 oz/ton). However, the program has revealed a shallow-depth and gently dipping gold-bearing vein system having a greater (areal) extent than that indicated by the trenched or local outcrop exposures.

Cumulative exploration results indicate that the widespread anomalous gold soil geochemistry is indeed reflecting an extensive distribution of significant mineral occurrences. Important gold and silver values occur principally within quartz  $\pm$  sulphide veins or stringers. The majority of occurrences found to date are within or at the contacts of a siliceous volcanic unit, suggesting partial lithological control of mineralization. A number of the sulphide-lean occurrences are hematitic and carry anomalous As  $\pm$  Bi  $\pm$  Mo  $\pm$  W associated with high gold grades. These characteristics signify the presence of a gold porphyry system, distinct from that of the nearby Brenda Cu-Mo porphyry system.

There remains very good potential to define economic high grade gold veins and/or a low grade but large, bulk mineable gold porphyry-type deposit on the Pen claims. Further exploration is definitely warranted.

\*\*\*\*

## 2.0 RECOMMENDATIONS

Fill-in soil sampling at 50m by 50m should be continued around stations with values  $\geq 20$  ppb Au to delineate anomalous trends. Approximately 1000 samples in total are required to complete this work in all areas of the property. Some auger sampling is required to determine continuity of an existing strong trend through swampy terrain in the Brenda Lake area, on the northeast PEN 10 claim.

Detailed prospecting of gold anomalies should be continued and reconnaissance samples collected from any altered or mineralized rocks. The rock samples should be analyzed for gold (AA) plus 30 elements (ICP). Those with anomalous values should be fire assayed for gold and silver.

Some cut-line grid control should be established and geological mapping should be conducted at least within the central property area (PEN 10 & 13, NW quadrant of PEN 14, and PEN 24-27 claims). Approximately 12 kilometres of cut lines are estimated.

The central property area described above should be surveyed by VLF-EM and magnetometer to locate possible major structures which may have localized gold mineralization.

Localities with mineral occurrences, anomalous gold geochemistry, coincident geophysical signatures and shallow overburden depth (<4m) should be trenched to bedrock with an excavator. Trenches should be cleaned, mapped and chip sampled. Samples should be tested for gold and other elements in the same manner as the reconnaissance rock samples. A minimum 100 metres of initial trenching is currently recommended at each of the following four locations/targets:

- a) PEN 3/7 common claim boundary, along existing road access 1.3 km NNW of Brenda Lake; site and vicinity of PEN91-R30 quartz float / 5950 ppb Au, 15.1 ppm Ag.
- b) NE corner of the PEN 10 claim, Brenda Lake area, between the main road and powerline right-of-way (1995 Drill Area); 300-m long soil anomaly from 8850E/9850N (55 ppb Au) to 9150E/9850N (430 ppb Au).
- c) Vicinity of the PEN 10/13 common claim boundary, near the Sunset Forestry Road, at the NW end of an 800-m long soil anomaly that extends from 8600E/7500N (56 ppb Au) to 8150E/8100N (320 ppb Au) and rock sample sites PEN94-R15, 15C/2430, 1160 ppb Au.
- d) On the western PEN 15 claim, along existing road access, in the vicinity of three very strong soil anomalies (220/140/1250 ppb Au) that are part of a 1700-m long trend extending SE from 9500E/6650N (50 ppb Au).

Contingent upon favourable results, substantially more trenching would be required.

Respectfully submitted  
**FAIRFIELD MINERALS LTD.**



E.A. Balón, P. Geo.

EAB/pj  
 June 1996

### 3.0 INTRODUCTION

#### 3.1 Location and Physiography (Figures 1 and 2)

The Pen property is located 42 kilometres west of Kelowna in south-central British Columbia (Figure 1). It is centered on latitude 49°53'N and longitude 120°02'W within NTS map areas 92H/16E and 82E/13W. The Okanagan Connector Highway (97C) passes near the northern claims and a number of gravel logging roads and trails provide good access to most parts of the property.

The current claims encompass approximately 30 square kilometres. Elevations range from 1995m at the peak of Pennask Mountain, near the expired western claims, to 1300m in the Trout Creek valley on the southeast claim. Slopes are moderately steep to locally very steep, with some rocky bluffs and canyons, especially along the headwaters of Peachland Creek. A few small lakes and ponds occupy depressions in the uplands of the central claims. Streams flow east and north off Pennask Mountain; east and south off the eastern claims. Bedrock exposure is abundant at higher elevations on ridges and steep slopes but is scarce on gentler slopes below about 1500m elevation. Glacial till is widespread on lower slopes, varying in depth from a few metres to over 10 metres. The area is densely forested with pine, spruce, balsam, and fir thinning to sparsely-treed sub-alpine meadows above about 1800m elevation. Clear-cut logged plots are located in several parts of the property, totalling about 20 percent of the area. Annual temperatures range from 20°C to 30°C and precipitation is moderate. The area is basically snow-free from late June through October.

#### 3.2 Claim Data (Figure 2, Table 1)

The current status of the Pen claims is indicated in Table 1 and their locations are shown on Figure 2. The claims, situated in the Nicola, Osoyoos and Similkameen Mining Divisions, were staked in August and September, 1990 and October, 1991 and are 100 percent owned by Fairfield Minerals Ltd.

During August 1995 the PEN 5-6, 8-9 and 11-12 claims totalling 84 units were allowed to lapse. This resulted in property size reduction to the present 28 claims comprising 120 units.

#### 3.3 History

Much of the Pen property east of Pennask Creek has been extensively explored for copper-molybdenum in the late 1960's during exploration and development of the Brenda deposit immediately to the east. Airborne magnetometer, soil geochemistry and IP survey results from this area are documented in various 1966 to 1969 assessment reports.

The Brenda copper-molybdenum deposit, one kilometre east of the Pen claim boundary, was mined by open pit from 1970 through 1990. Production totalled 160 million tons grading 0.18% Cu, 0.05% Mo with minor silver and gold values.

Prospecting by Fairfield from 1986 to 1991 in the Brenda district revealed gold mineralization in three localities, hosted by quartz veins and/or sulphide skarn pods. Rock grab samples returned values up to 0.18 oz/ton Au and stream sediment samples gave anomalous values for Au, Ag, Cu, Zn, Mo and As. These results prompted staking of the original Pen group which consisted of 310 units in 37 claims.



From 1990 to 1994, extensive grid soil sampling was conducted on the entire (original) claim block to test for and delineate areas of gold enrichment. A total of 6529 samples were collected and all were analyzed for gold. Numerous anomalous values, up to 930 ppb Au, were returned.

During 1991 through 1994 prospecting around anomalous soil sites led to discovery of additional mineral occurrences, predominantly vein-type, from which grab samples yielded up to 35,800 ppb gold (~1.0 oz Au per ton) and 4 oz silver per ton. Trenching in late 1994 at one of these showings, near Brenda Lake, uncovered gold-quartz veins from which a continuous chip sample returned an assay of 1.4 oz Au per ton over 65 cm (2.1 feet).

Before the end of the 1994 field season, the property size was reduced to 204 units in order to maintain only the higher priority exploration targets and thus optimize allocation of assessment work credits.

### **3.4 1995 Exploration Program**

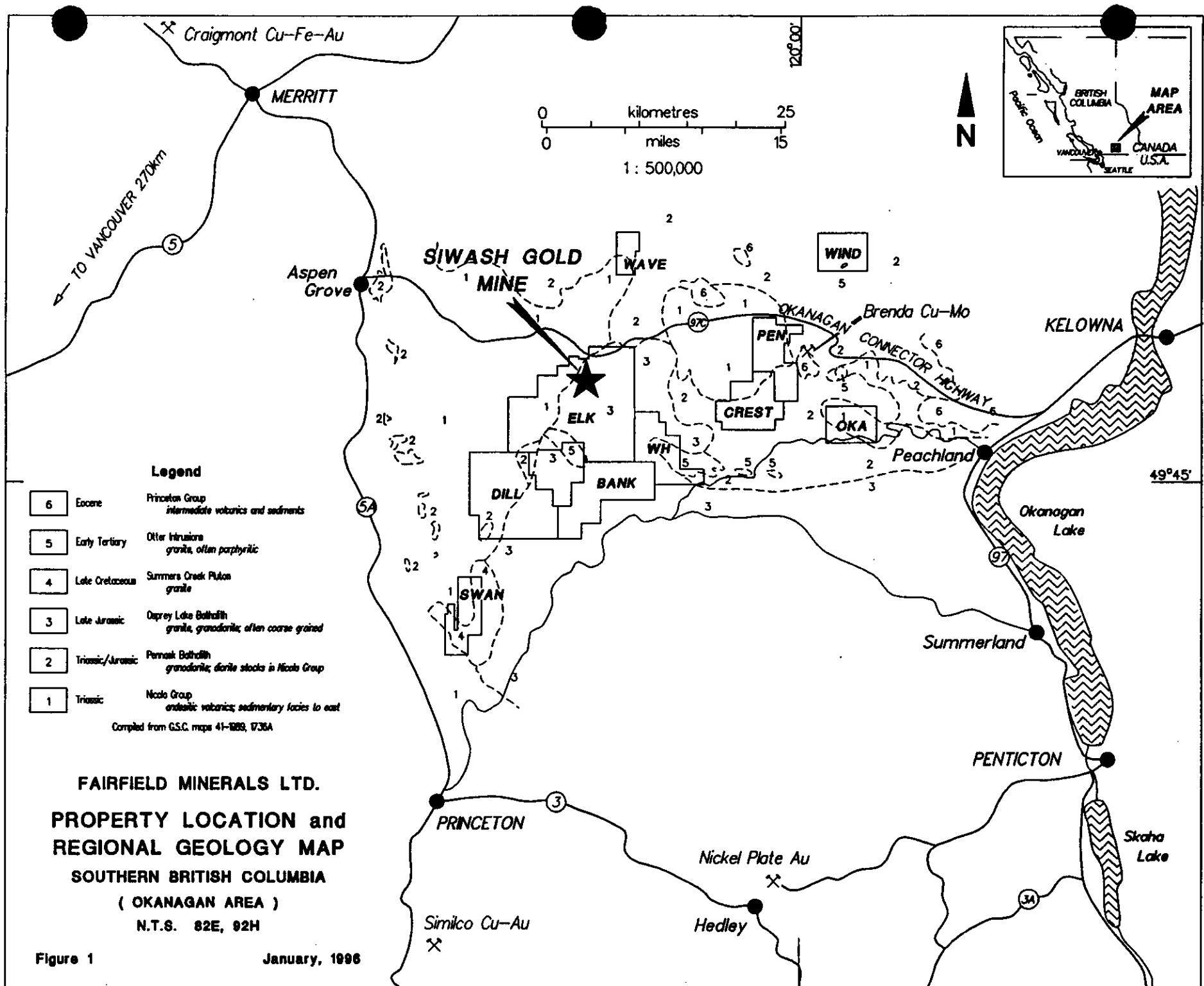
The 1995 program comprised 43 person-days of field work apportioned as to 27 for grid location and soil geochemistry, 9 for anomaly evaluation and follow-up, and 7 for drilling-related activities and minor reclamation.

Grid soil geochemistry consisted mostly of fill-in sampling at 50 m by 50 m around existing anomalies on parts of the PEN 9-10, 12-17, 19 and 24-27 claims, representing about 35% of the property area prior to 1995 claim expiries. This work generated 768 soil samples which were analyzed only for gold.

Evaluation of results and follow-up included earlier (pre-1995) data merger and research, prospecting and reconnaissance rock sampling in areas of anomalous gold soil geochemistry. Six rock samples were collected and tested for 30 elements.

Limited diamond drilling was undertaken on the northern PEN 10 claim, near Brenda Lake. Five holes totalling 124.05 m (407 ft.) were drilled as an initial test for continuity and extent of the veining and gold mineralization exposed by 1994 trenching. All core was logged and 14 core samples were tested for 30 elements. During demobilization all trench and drill sites were reclaimed and subsequently grass-seeded.

\*\*\*\*

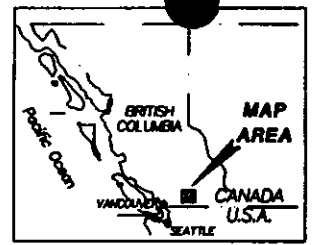


Craigmont Cu-Fe-Au

MERRITT

TO VANCOUVER 270km

0 25  
0 15  
kilometres  
miles  
1 : 500,000



Aspen Grove

SIWASH GOLD MINE

WAVE

WIND

Brenda Cu-Mo

KELOWNA

OKANAGAN CONNECTOR HIGHWAY

PEN

CREST

OKA

Peachland

Okanagan Lake

49°45'

Summerland

PENTICTON

Skaha Lake

PRINCETON

Nickel Plate Au

Hedley

Similco Cu-Au

DILL

BANK

SWAN

WH

6

Eocene

Princeton Group  
intermediate volcanics and sediments

5

Early Tertiary

Otter intrusions  
granite, often porphyritic

4

Late Cretaceous

Summers Creek Pluton  
granite

3

Late Jurassic

Oxprey Lake Batholith  
granite, granodioritic, often coarse grained

2

Triassic/Jurassic

Pemask Batholith  
granodioritic, diorite stocks in Nicola Group

1

Triassic

Nicola Group  
andesitic volcanics; sedimentary facies to east

Compiled from G.S.C. maps 41-1888, 1736A

FAIRFIELD MINERALS LTD.

PROPERTY LOCATION and  
REGIONAL GEOLOGY MAP

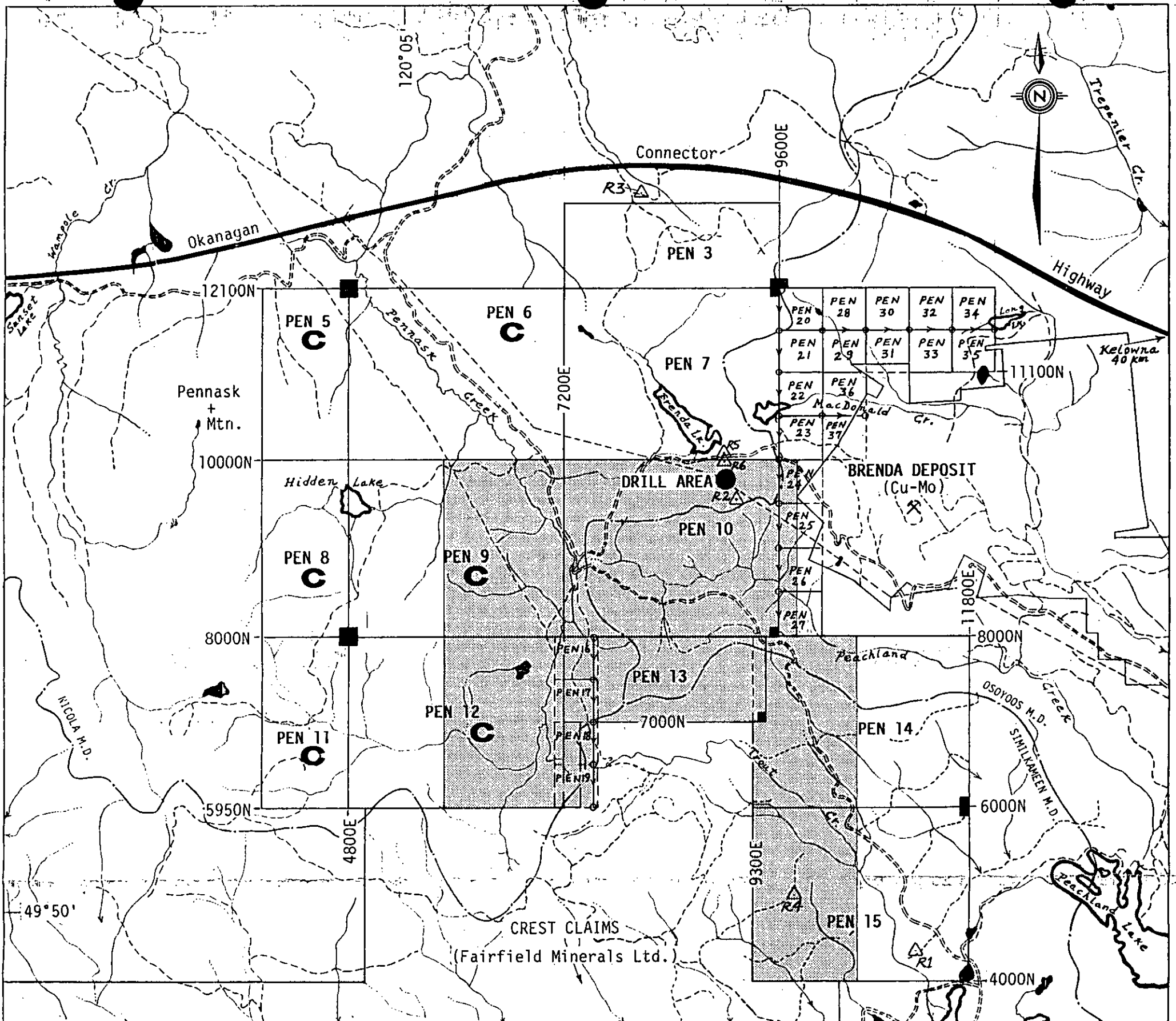
SOUTHERN BRITISH COLUMBIA

( OKANAGAN AREA )

N.T.S. 82E, 92H

Figure 1

January, 1996

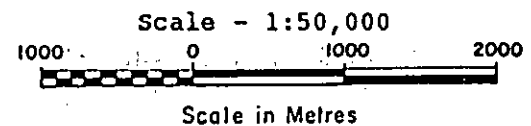


**Legend**

- Legal Corner Post for 4-Post Mineral Claim(s)
- ⊙—→⊙ Initial and/or Final Posts, Location Line Direction of 2-Post Mineral Claims
- PEN 8 Claim Name
- C Claim Cancelled during 1995
- Mining Division Boundary
- Access Road, Trail or Powerline Right-of-Way
- △ R5 Reconnaissance Rock Sample Site (PEN 95 Prefix Omitted From Sample Numbers)
- Area of 1995 Fill-in Soil Geochemistry

**FAIRFIELD MINERALS LTD.  
PEN PROPERTY  
CLAIM, GRID AND  
RECONNAISSANCE SAMPLE LOCATIONS**

Nicola, Osoyoos & Similkameen Mining Divisions  
NTS: 92H/16E and 82E/13W, B.C.



January, 1996

Figure 2

Table 1

CLAIM STATUS

Pen Property - NTS: 92H/16E and 82E/13W

<u>Claim</u>	<u>Units</u>	<u>Tenure No.</u>	<u>Expiry Date</u>
PEN 3	10	237579	1 SEPT 1997
PEN 7	20	237583	1 SEPT 1997
PEN 10	20	247305	1 SEPT 1998
PEN 13	8	249890	31 AUG 1996
PEN 14	20	249891	2 SEPT 1997
PEN 15	20	249892	2 SEPT 1996
PEN 16	2-post	237588	3 SEPT 1998
PEN 17	2-post	237589	3 SEPT 1998
PEN 18	2-post	237590	3 SEPT 1997
PEN 19	2-post	237591	3 SEPT 1997
PEN 20	2-post	305864	11 OCT 1997
PEN 21	2-post	305865	11 OCT 1997
PEN 22	2-post	305968	11 OCT 1997
PEN 23	2-post	305899	11 OCT 1997
PEN 24	2-post	305900	11 OCT 1997
PEN 25	2-post	305901	11 OCT 1997
PEN 26	2-post	305902	11 OCT 1997
PEN 27	2-post	305903	11 OCT 1997
PEN 28	2-post	305904	11 OCT 1997
PEN 29	2-post	305905	11 OCT 1997
PEN 30	2-post	305906	11 OCT 1997
PEN 31	2-post	305907	11 OCT 1997
PEN 32	2-post	305908	11 OCT 1997
PEN 33	2-post	305909	11 OCT 1997
PEN 34	2-post	305910	11 OCT 1997
PEN 35	2-post	305911	11 OCT 1997
PEN 36	2-post	305912	11 OCT 1997
<u>PEN 37</u>	<u>2-post</u>	<u>305913</u>	<u>11 OCT 1997</u>
<b>28 Claims</b>	<b>98 Units</b>		
	<b>+22 2-post claims</b>		

## 4.0 GEOLOGY

### 4.1 Regional Geology (Figure 1)

Regional geology in the area of the Pen property is shown on the northeast part of GSC Map 41-1989, Hope, by J.W.H. Monger, 1989 and the northwest part of GSC Map 1736A, Penticton, by D.J. Templeman-Kluit, 1989 which are condensed on Figure 1.

The claims are underlain predominantly by a large pendant consisting of volcanic and sedimentary rocks of the Upper Triassic Nicola Group. The northeast and southeast extensions of the property are underlain by granodiorite of the Late Triassic to Early Jurassic Pennask Batholith.

Nicola Group lithologies consist of felsic to mafic flows and tuffs interspersed with argillite, siltstone and limestone units. The batholith comprises white to grey, medium to fine grained granodiorite. Widespread silicification and bleaching of argillite and volcanic rocks is present near intrusive contacts.

Quartz veining is locally abundant, generally concentrated near the edges of the batholith. Porphyry style copper-molybdenum mineralization has been mined from intrusive rocks at the Brenda deposit near the east contact of the Nicola pendant, immediately east of the Pen claims.

### 4.2 Property Geology and Mineralization

The geology of the Pennask Mountain area, which covers most of the Pen property, was mapped in 1987 by G.L. Dawson and G.E. Ray of the B.C. Ministry of Energy, Mines & Petroleum Resources at 1:25,000 scale. Their mapping subdivided the Nicola Group, which comprises the roof pendant underlying most of the property, into three northeast-striking formations which young toward the northwest. The easternmost, Peachland Creek Formation consists of basaltic to dacitic flows and tuffs and a siliceous feldspar porphyry subvolcanic unit. The central Stemwinder Mountain Formation consists predominantly of black argillite locally overlying thin sections of conglomerate, limestone and limy siltstone. The youngest rocks, to the west, are bedded to massive andesitic tuffs with minor interbedded argillite. A 1.5 km-long granodiorite stock of uncertain age intrudes this upper volcanic Whistle Creek Formation in the (previous) northwest corner of the property, east of Pennask Mountain summit (expired PEN 5 claim). Other, smaller intrusions (dykes/sills) of unknown age and various compositions are locally exposed in several areas of the claim group.

Geological observations have been made by Fairfield personnel in and around the present Pen property during reconnaissance prospecting and sampling conducted since 1986. Near the northern claims extensive bedrock has been exposed by construction of the recently completed Okanagan Connector Highway. This consists mostly of Nicola volcanic and sedimentary rocks cut, and altered, locally by felsic dykes up to several metres wide. North of the PEN 28-35 claims the highway crosses the batholith contact, exposing granodiorite in steep rock cuts. All rock types host local zones of strong fracturing accompanied by clay alteration, disseminated sulphides and, in some places, quartz-sulphide veins or masses. Sulphide mineralization is mainly pyrite with lesser pyrrhotite, chalcopyrite, molybdenite and sparse occurrences of galena, sphalerite, arsenopyrite and tetrahedrite(?) with gold and silver values. A grab sample of quartz collected in 1990 from a narrow vein cutting granodiorite in this area returned 6220 ppb (0.18 oz/ton) Au.

On the previous western claims (PEN 5, 9), within a granodiorite stock and near small dioritic intrusions, small pods of massive sulphide skarn and narrow quartz-arsenopyrite-sphalerite veins have been found. Some of the grab samples returned gold values up to 3770 ppb (0.11 oz/ton) Au. Sulphide pods less than 1 metre in diameter consisting of pyrite, pyrrhotite and arsenopyrite are exposed in road banks along a rough trail which climbs southwesterly past Hidden Lake.

In the central property area at the headwaters of Peachland Creek, narrow quartz veins cut black argillite outcrop. Grab chips of quartz with disseminated pyrite and galena returned gold values up to 4920 ppb (0.14 oz/ton) with silver content of 31.2 ppm (0.9 oz/ton). Dark grey to black limestone is locally interbedded with the argillite, and this assemblage is intruded by small bodies of porphyritic granite. Farther to the north, at the PEN 3/7 common claim boundary, significant gold-bearing limonitic and hematitic quartz float has been found in similar terrane (e.g. Sample PEN 91-R30/5950 ppb Au, 15.1 ppm Ag).

Near Brenda Lake, on the PEN 10 claim, several gold-quartz occurrences have been located since 1993. These are hosted in diorite and altered volcanics cut by feldspar porphyry dykes, within a presently-known area of about 450 metres (1500 feet) in diameter. Grab and chip samples from or near the main vein showings exposed by trenching in 1994 (Trench PE94-1) have yielded gold analyses/assays of up to 35800 ppb and 1.40 oz/ton (48g/T) over 65 cm, with associated anomalous bismuth and tungsten. Initial drill testing at this locality in 1995 has revealed additional, generally shallow-dipping subsurface veins from 1 cm to 35 cm in width (see Section 6). Approximately 150 metres to the southeast of Trench PE94-1, visible gold and bismuth mineralization are present in quartz float and outcrop. Selected grab samples from this occurrence have returned analyses up to 112000 ppb Au (>3 oz/ton) and 2881 ppm Bi (PEN95-R2 & PEN94-R22, see Figure 3).

Within the PEN 13 claim and on an adjoining Crest claim a number of quartz veins and stringers have been found cutting argillaceous rocks and, most commonly, siliceous volcanics (upper Peachland Creek Formation). The quartz is glassy grey to white or rosy with generally sparse disseminated pyrite and minor fine black grains, possibly specular hematite. Veins located to date appear to be irregular and discontinuous, with various orientations and gentle to steep dips. Some of the larger ones are pegmatitic, containing coarse intergrown micas and feldspar. Grab samples have returned gold values up to 4280 ppb (0.12 oz/ton). A similar sample of hematitic quartz chips from overburden 600 metres to the south, on the Crest property, returned assays of 8.534 oz/ton Au, 35.72 oz/ton Ag (Sample C90-R13, 1990).

The style and distribution of mineral showings found to date in the central Pen and adjacent Crest claims suggest the presence of a substantial mineralized system. A number of significant gold grades have been returned from samples of sulphide-lean quartz veins or possible stockworks. These occurrences contain hematite and/or strongly anomalous Bi±W±As±Mo coincident with high gold values. Such vein mineralogy and elemental associations are characteristics of gold porphyry-type deposits, as recently described in published literature (Hollister, 1991-92). As well, the overall geological environment at Pen/Crest is similar to that on Fairfield's Elk property 15 km to the west. At Elk, high-grade gold-quartz vein structures are hosted by intrusive and adjacent Nicola volcanic rocks. Although most of the known veins at Elk contain abundant sulphides (mainly as pyrite), extensive ore sampling results from the Siwash Gold Mine there also show a significant gold-bismuth correlation.

## 5.0 GEOCHEMISTRY

### 5.1 Introduction

Geochemical work on the Pen property in 1995 consisted of grid soil sampling and minor reconnaissance rock sampling. Totals of 768 soil and 6 rock samples were collected, bringing the cumulative sums of these since initial claim acquisition in 1990 to 7297 and 82 respectively.

The soil geochemistry comprised mainly fill-in sampling at 50m by 50m spacing around selected existing gold anomalies. Most of this sampling was focused on the central and southeastern claims which cover the best gold targets as defined by collective results of previous surveys. Additionally, in the central claim/grid area, an existing 200m-spaced soil line (9800 E) was extended by one kilometre and sampled at 50-metre intervals. Elsewhere, on the northern grid, two soil stations were resampled to check original (1991) anomalous gold results.

### 5.2 Sampling/Analytical Procedures

Soil sample locations were established by compassing and chaining out from the existing grid stations, and were similarly marked with grid-numbered waterproof Tyvek tags plus orange and blue fagging. Samples were collected from the "B" horizon with mattocks and placed in Kraft paper bags marked with the appropriate grid coordinates. The soils were sent to Acme Analytical Laboratories Ltd. in Vancouver where they were dried, sieved and the -80 mesh fraction tested for gold content. Each sample was analyzed for gold by atomic absorption (AA) following aqua regia digestion and MIBK extraction from a 10-gram subsample. *Sample depth range is 15 to 50 centimetres.*

Rock sample sites were marked with numbered pink flagging and grid-referenced by surveying to local soil stations. The rock samples had an average weight of 1 to 2 kilograms with chips ranging from 1 to 7 cm in diameter. They were also shipped to Acme Analytical Laboratories Ltd. in Vancouver where they were each crushed to minus 3/16 inch then 250 grams split out and pulverized to minus 100 mesh. All were analyzed for gold from 20-gram subsamples, by the same method as that used for the soils. Additionally, 30-element ICP determinations were made from 0.5-gram cuts.

### 5.3 Soil Results (Plate 1)

Integrated 1995 and all prior gold soil geochemical results are plotted on Plate 1. The geochemical grid location relative to claim boundaries is shown on Figure 2. Complete 1995 analyses from all samples are contained in Section 12.

Increasing symbol sizes on Plate 1 correspond to values <10, >10, >20, >50 and >100 ppb Au. Values greater than 20 ppb Au are considered significant anomalies; those less than 10 ppb Au are not posted as they are probably below threshold.

The 1995 sampling identified 40 sites of anomalous gold, up to 1250 ppb, and 52 sites with threshold values of 10-20 ppb Au. These results provide further target definition in three of the four areas of gold enrichment initially outlined by programs in 1990 and 1991.

The central grid includes an area previously referred to as East Grid (1993). Here, a wide belt of prominent gold enrichment extends through the PEN 10 & 13 claims and continues southerly onto the adjoining Crest property. Within Pen, the main part of this belt is situated between 7800E - 9400E from 7250N - 9800N. Peripheral clusters of gold anomalies occur to the southwest and east, between 6600E - 7200E from 6000N - 8600N and between 9600E - 10800E from 7200N - 9950N. Anomalous results from 1995 sampling include eleven values of greater than 50 ppb Au, up to 430 ppb Au. Three of these values reveal a 300-metre long easterly trend located about 150m to 200m north of currently-known high grade gold occurrences near Brenda Lake (1994 Trench & 1995 Drill Area). Additional fill-in, entailing some auger sampling, will be required to test for continuity of this trend across a large swamp.

In the southeastern grid area gold anomalies are dispersed throughout the PEN 14 & 15 claims, but most of the stronger ones are located on the western parts between lines 9600E and 10800E. This large north to northwest trending zone of gold enrichment is roughly aligned with, and contiguous to, the above-described (central) area. Fill-in sampling, initiated in 1994 and continued during 1995, has extended most of the anomalies tested. The 1995 results include six high values from 59 to 1250 ppb Au, five of which enhance a 1700-metre long NNW linear trend from 9850E/5000N to 9500E/6650N. Substantive infill sampling remains to be conducted, to the east from Line 10600E.

On the western grid, limited fill-in sampling tested six scattered anomalies to the east and southeast of Hidden Lake between 5800E - 6600E and 6000N - 9900N. Only three of these were extended; the results include highs of 54/120/140 ppb Au around Station 6000E/7600N (72 ppb Au). The claims in this area (PEN 9 & 12) have been allowed to lapse.

Property wide, the overall cumulative soil sample data indicate prominent cross-cutting E/NE and NW trending linears of strongly anomalous gold values within broad N/NW trending belts of gold enrichment. This anomaly distribution pattern is similar to that which would be expected from a large stockwork and/or disseminated gold source transected by individual major vein structures. It should be noted however, that such a signature could be reflecting only separate wide-spaced mineralized veins (or local veinlet concentrations/skarn pods) with intervening glacial smearing of gold values in soil. Glacial direction in this region is SSE and based on experience gained from other nearby properties, geochemical dispersion ranges from a few metres to 200 metres southerly from a gold source, depending on topographic slope and overburden thickness.

#### 5.4 Anomaly Evaluation and Follow-up (Figure 2 and Table 2)

Prospecting was conducted around selected gold soil anomalies throughout the claim group, but with emphasis on the strongest of those located in 1995. Six reconnaissance rock samples were collected; their locations are shown on Figure 2. Sample types and descriptions together with collated gold, silver, copper, lead and zinc results are given in Table 2. Complete analyses for all 30 elements tested are included in Section 12.

All of the rock samples contained quartz vein material, with sulphide contents ranging from abundant to very little or none visible. Three returned gold analyses of  $\geq 250$  ppb, up to 112000 ppb (3.267 oz/ton). Of these, two were from the central grid area and one from the south-eastern grid. Coincident high or anomalous values of other elements in these (three) samples include Ag in two and Bi± As± Mo± W in all. The significance of this latter association in various gold occurrences found to date on the Pen & Crest claims has been explained under Section 4.2.



Two of the anomalous gold sites (-R2, R6) are located at about 150m southeast and 300m northwest of the vein showings exposed in Trench PE94-1. Thus, these occurrences indicate that the mineralized vein system(s) in this Brenda Lake area may have considerable lateral extent. The very high grade sample, R2 (>3 oz Au/ton), was collected from an outcrop which is the probable source of visible gold-bearing float previously found a few metres downslope (PEN94-R22/12700 ppb Au; see Figure 3).

On the southeastern grid, the quartz breccia float (-R4) which yielded 1720 ppb Au was found only 10m away from a 220 ppb Au soil anomaly (Station 9850E/5000N). This anomaly is at the southern end of the 1700-metre long gold geochemical trend described under 5.3. Only unaltered granodiorite was observed in nearby outcrop bluffs and in a recent road cut. This same road cut also exposes sections of deep till in the locally undulating topography. The angularity and composition of the sampled material suggest the presence of a nearby (buried) Nicola contact or possibly a younger volcanic dyke(s) cutting the granitic terrane, with attendant alteration and veining.

No significant mineralization was found at or near any of the western grid sites that were examined. Sporadic, very small, glassy quartz vein fragments were noted around some of the anomalies centered at 6000E/7600N (5 stations/46-140 ppb Au). This area is underlain by Nicola argillite and siltstone on the moderately steep and relatively inaccessible east flank of Pennask Mountain. The overlying PEN 12 claim was allowed to expire.

On the northern grid, duplicate soil samples taken at stations 6600E/11050N and 11200N failed to confirm either of the original (1991) anomalous results (51 & 56 ppb Au). These sites are on an adjacent 200m-spaced line to another strong anomaly (6400E/11050N, 770 ppb Au) that was not verified by resampling during 1994. The overlying PEN 6 claim in this area of mainly argillite terrane was also allowed to expire.

\*\*\*\*

TABLE 2:

**PEN PROPERTY 1995  
RECONNAISSANCE ROCK SAMPLES**

<u>Sample Number</u>	<u>Approximate Grid Location</u>	<u>Type and Description</u>	<u>Analyses: (Au-ppb,others-ppm)</u>				
			<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>
PEN 95-R1	4400N/11030E	Float grab. Subangular qz vn fgmnt 6cm thick x 15cm long. White to blue-gy opaque qz w/dissem py, chloritic partings and 0.5 cm band massive py, trace cp.	16	0.5	258	<3	11
PEN 95-R2	9540N/9105-10E	Bedrock grabs. Selected pieces from ~ 5 cm thick, flat-lying qz vn or pod (?) in silic volcs. Glassy to opaque white qz w/dissem silvery metallics, probably bismuthinite.	112000 Rerun: 99000	25.8 13.2	10 11	13 14	4 5
			(Bi analyses of 2692 and 2881 ppm)				
PEN 95-R3	13200N/8000E (outside of present property area).	Float grab. Chips from single, tabular qz vn fgmnt 10-13 cm thick x 18 cm long. Semi-glassy to locally opaque qz w/Fe-Mn oxides in fracs & cavities; some clay-carb alt'd inclusions.	6	0.4	52	76	27
PEN 95-R4	4990N/9845E	Float grab. 9x9x11 cm angular piece qz breccia vn w/bleached, silic volc fgmnts. V. rusty weathered w/abund limonite in cavities	1720	6.0	44	8	10
			(Bi - 14 ppm and Mo - 11 ppm)				
PEN95-R5	9985N/8980E (as measured from 10000N Baseline)	Float grab. Chips from 15x15x20 cm fgmnt of alt'd volc containing qz vn(s) up to 8 cm wide. Semi-glassy qz w/abund limonitic cavities, also some hematitic and yellow-orange staining.	79	0.8	19	5	7
			(As - 79 ppm)				
PEN 95-R6	9970N/8975E (relative to R5)	Float grabs. Angular qz vn material w/attached silic, bleached volc hostrock. Vn fgmnts to 7 cm thickness; semi-glassy to opaque qz w/rusty fracs, dissem py & minor dull gy weath metallics	300 Rerun: 250	0.7 0.8	17 18	4 5	7 7
			(As - 39 and 42 ppm; Bi - 9 and 8 ppm.)				

## 6.0 DIAMOND DRILLING

### 6.1 Introduction

Diamond Drilling was carried out on the PEN 10 claim between July 20 and July 22, 1995. Five NQ size holes, totalling 124.05m (407 ft.), were drilled from 4 sites by Leclerc Drilling of Beavertell, B.C., using a skid-mounted Longyear 38 drill. Overall core recovery was 90%, at an average drilling rate of 5.51m per hour. Drill information is summarized in Table 3.

### 6.2 Drilling Operations

Sites were located along a cleared powerline right-of-way near existing trench sites and access trails, and were levelled with a D5 Caterpillar bulldozer. Water was pumped to the drill from a local stream, over a distance of about 300m. All used drill fluids were contained in sumps dug at each site. The drill was moved between sites with the bulldozer.

Drill holes were oriented to intersect the presumed down-dip extensions of gold-bearing quartz veins exposed in Trench PE94-1. Sperry-Sun tests were performed on all non-vertical holes to test for variations in orientation. Hole collar locations were surveyed relative to the existing property grid.

Geological and geotechnical core logging were conducted at the Siwash Gold Mine on the Elk property, 18 km west of the drill area. Logs were recorded in Lotus 123 spreadsheets for processing using the Placer Dome-modified Geolog software package. All core was photographed at four boxes to the frame, and boxes with bulk (unsplit) vein samples were photographed in detail at 5 frames per box. The core is stored on a pallet at the Siwash Mine.

Fourteen core samples were collected from quartz vein and/or altered bedrock intercepts. These were shipped to Acme Analytical Laboratories Ltd. in Vancouver for gold fire assay and 30-element ICP analysis.

Table 3:

**PEN PROPERTY 1995  
DIAMOND DRILL SUMMARY RECORD**

Hole #	Northing	Easting	Elevation (metres)	Dip (degrees)	Azimuth (degrees)	Start Date	Finish Date	Depth (metres)
PEN95-1	9718.5	9043.0	1752	-60	145	Jul 20	Jul 20	35.66
PEN95-2	9695.5	9088.0	1750	-60	225	Jul 20	Jul 21	30.78
PEN95-3	9737.0	9029.0	1749	-90	000	Jul 21	Jul 21	20.42
PEN95-4	9680.5	9108.5	1751	-60	225	Jul 21	Jul 21	18.29
PEN95-5	9680.5	9108.5	1751	-90	000	Jul 21	Jul 22	18.90
								124.05

### 6.3 Drilling Results

One or more quartz or quartz-calcite veins were encountered in four of the five holes drilled. Just three of the vein intercept samples yielded only geochemically significant gold values of greater than 100 ppb up to approximately 650 ppb (.004 - .019 oz/ton). However, the drilling program has identified a more extensive vein system than that indicated by trenching and local outcrops. The overall (drill) results indicate a series of flat to gently dipping veins and/or lenses (?) that are not readily correlated with any exposed at surface.

Summary geological logs and sample records of the drill holes are attached in Section 11, and drill hole locations are shown on Figure 3. The subsurface geology and sample locations are plotted on drill sections, Figures 4 to 6. Significant analytical results are summarized in Table 4, and complete results are included in Section 12.

The predominant rock type cut in all five drill holes is a locally chloritized, medium grained, grey diorite similar to that in Trench PE94-1. The upper 5 to 10m of core from each hole was moderately to strongly fractured and weathered.

**Hole PEN95-1** was located 35m northwest of Trench PE94-1 and drilled southeasterly to intersect a northwest-dipping vein exposed at surface. Two fine grained mafic dykes, 25 cm and 4 cm thick, were cut. Two fractured and weathered quartz veins of about 35-cm and 10-cm widths, plus several quartz veinlets of 4-mm to 10-mm widths, were also encountered. Common narrow calcite stringers were noted, particularly below 20m depth. The upper (35-cm) vein intercept, containing trace pyrite, returned no significant assay value for Au. The host diorite is moderately silicified or phyllic altered 6 cm above and 3 cm below the boundaries of this vein. The lower vein intercept, without any significant associated alteration, contained 7% pyrite and yielded a gold assay of 0.019 oz/ton (0.65 g/t) over a 25-cm sample length.

**Hole PEN95-2** was located 20m northeast of Trench PE94-1 and drilled southwest to intersect a northeast-dipping vein exposed at surface. A few intervals of altered diorite with no quartz veins were encountered. A zone of sulphide-rich diorite, possibly including some phyllic alteration, returned values of 3.2 ppm Ag, 1689 ppm Cu, 119 ppm Ni, 288 ppm Co, and 0.004 oz/ton (0.14 g/t) Au over a length of 34 cm.

**Hole PEN95-3** was drilled vertically, 22m northwest of PEN95-1, to test the down-dip continuity of veins. A quartz-calcite vein, 5 cm wide, hosted by phyllic altered and silicified or recrystallized diorite was intersected at 15.4 m depth and sampled but did not yield any significant assay result. Fine grained andesite or basalt containing varying proportions of chlorite and sericite was intersected from 15.82 m depth to the end of hole at 20.42 m. A zone of weakly altered volcanic rock with one or more arsenopyrite-bearing stringers yielded values of 4320 ppm As and 0.010 oz/ton (0.34 g/t) Au.

**Hole PEN95-4** was located 25 m east of Trench PE94-1 and drilled southwest to intersect the same northeast-dipping vein targeted by PEN92-2. Five quartz veins, 2 cm to 25 cm thick, with 0 to 1 % pyrite were intersected in very weakly altered diorite. No samples from this drill hole returned significant analytical results.

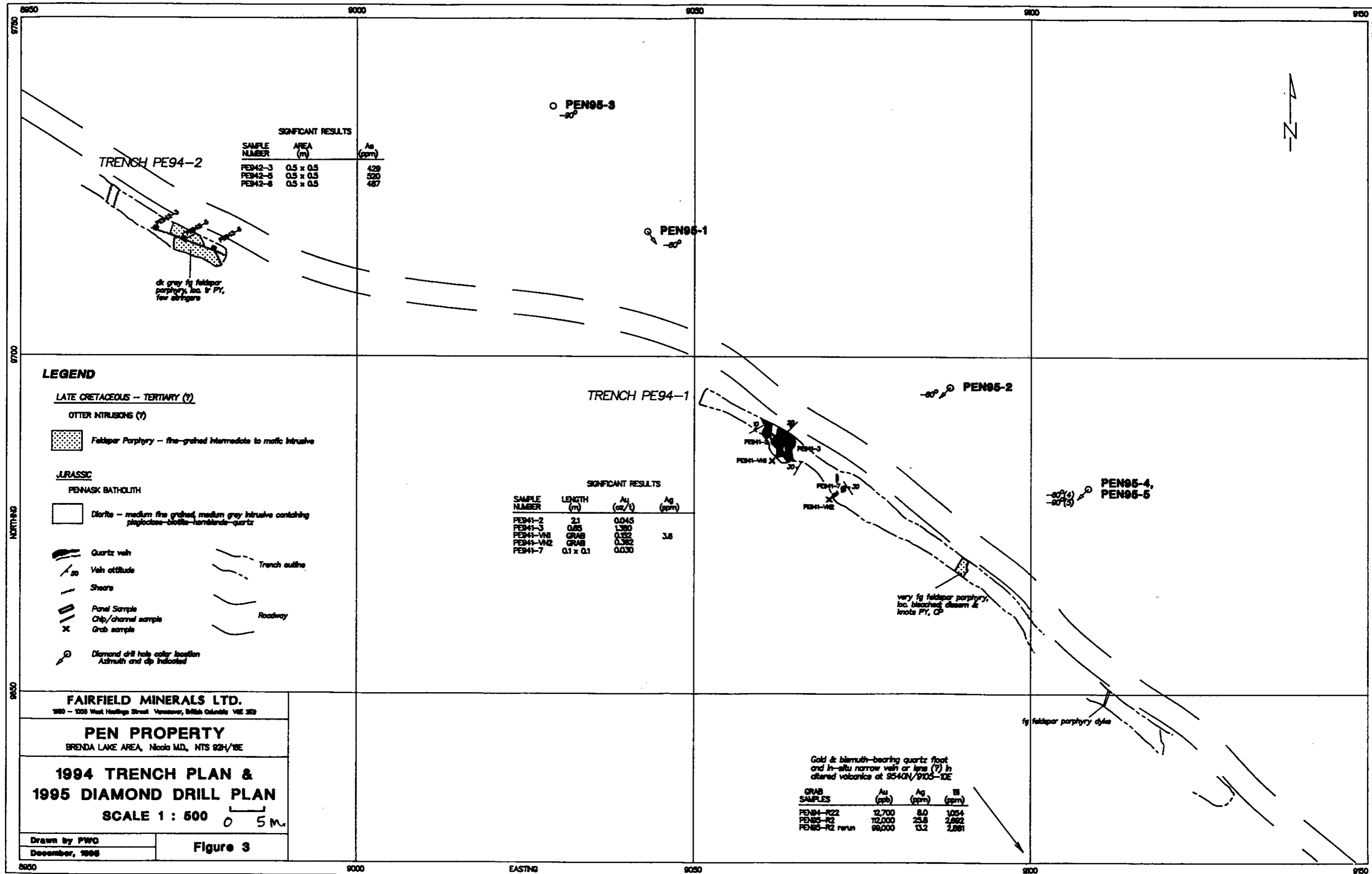
**Hole PEN95-5** was drilled vertically from the same site as PEN95-4 to test the down-dip continuity of veins. Six quartz veins, 1.5 cm to 20 cm thick, only two of which contained trace pyrite, were intersected within very weakly altered diorite. No samples from this drill hole returned significant analytical results.

Table 4:

**SUMMARY OF SIGNIFICANT CORE SAMPLE RESULTS**

Hole #	Sample #	Depth (metres)		Interval Length (m)	Au (oz/ton)	Other (ppm)	Description
		From	To				
PEN95-1	PEN951-2	7.32	7.57	0.25	0.019		qz vn plus alt'd wallrock, 7 % py.
PEN95-2	PEN952-1	19.24	19.58	0.34	0.004	Ag - 3.2, Cu - 1689, Ni - 119, Co - 288.	phyllic - alt'd (?) sulphidic diorite.
PEN95-3	PEN953-2	17.45	17.80	0.35	0.010	As - 4320	Aspy-rich qz± calcite vltz in mafic volc.

\*\*\*\*



**SIGNIFICANT RESULTS**

SAMPLE NUMBER	AREA (m)	As (ppm)
PE94-3	0.5 x 0.5	429
PE94-5	0.5 x 0.5	320
PE94-8	0.5 x 0.5	487

**SIGNIFICANT RESULTS**

SAMPLE NUMBER	LENGTH (m)	Au (oz/t)	Ag (ppm)
PE94-2	21	0.045	
PE94-3	0.85	1.360	
PE94-VN1	GRAB	0.152	3.6
PE94-VN2	GRAB	0.382	
PE94-7	0.1 x 0.1	0.030	

**Gold & bismuth-bearing quartz float and in-situ narrow vein or lens (?) in altered volcanics at 9540N/9705-10E**

GRAB SAMPLES	Au (ppb)	Ag (ppm)	Bi (ppm)
PE94-R22	12,700	8.0	1054
PE95-R2	72,000	23.8	2,692
PE95-R2 rerun	99,000	13.2	2,981

**LEGEND**

- LATE CRETACEOUS - TERTIARY (?)**
- OTHER INTRUSIONS (?)**
- Feldspar Porphyry - fine-grained intermediate to mafic intrusive
- JURASSIC**
- PENNASK BATHOLITH**
- Diorite - medium fine grained, medium grey intrusive containing plagioclase-biotite-hornblende-quartz
- Structural Features:**
- Quartz vein
  - Vein attitude
  - Shears
  - Panel Sample
  - Chip/channel sample
  - Grab sample
  - Diamond drill hole collar location (Azimuth and dip indicated)
- Other Symbols:**
- Trench outline
  - Roadway

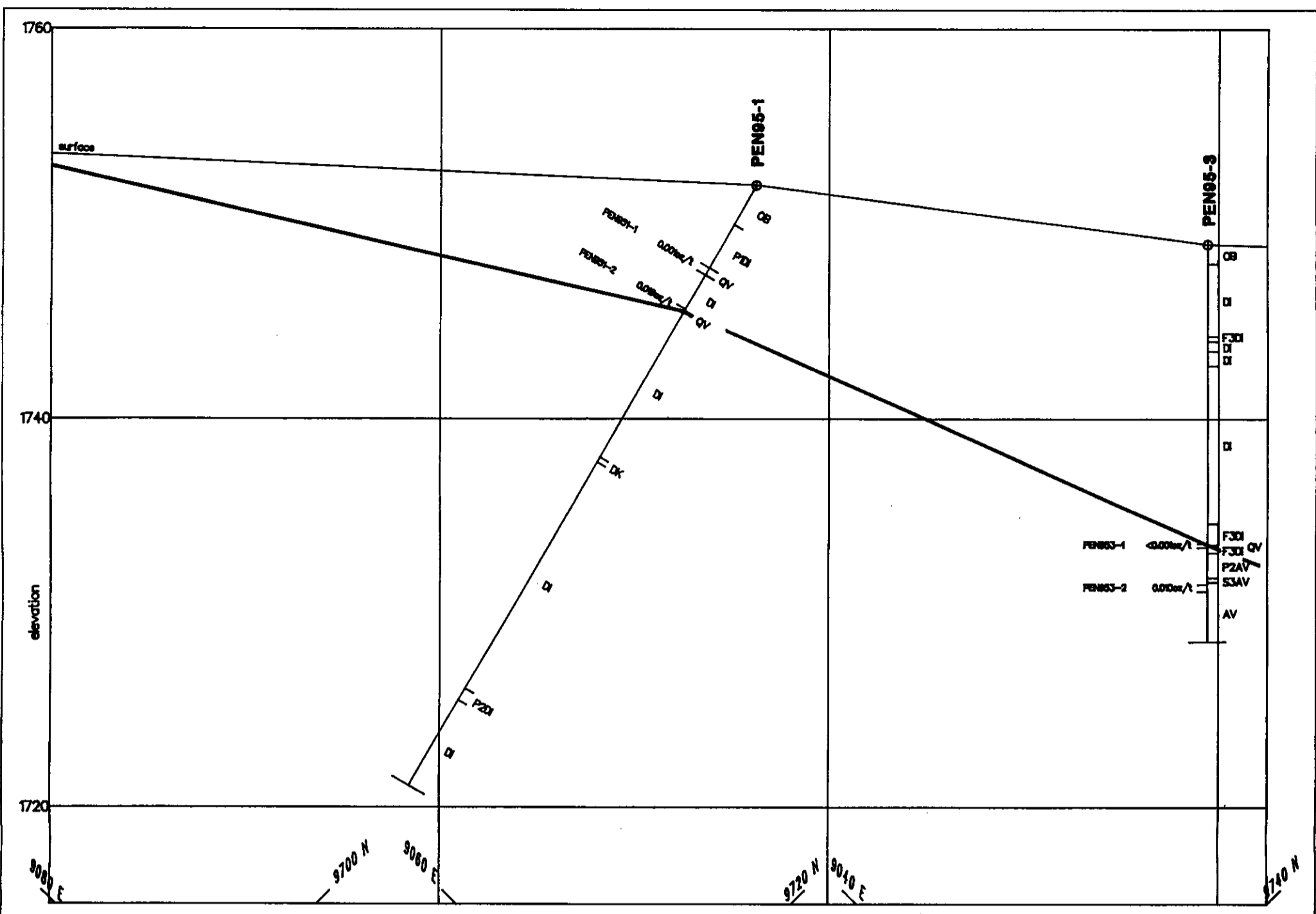
**FAIRFIELD MINERALS LTD.**  
 1980 - 1025 West Hurlings Street, Vancouver, British Columbia V6E 2E9

**PEN PROPERTY**  
 BRENDA LAKE AREA, Nicola M.D., NTS 92H/10E

**1994 TRENCH PLAN & 1995 DIAMOND DRILL PLAN**  
 SCALE 1 : 500

Drawn by PWO  
 December, 1995

**Figure 3**



**LEGEND**

- LATE CRETACEOUS - TERTIARY (?)**
- OTTER INTRUSIONS (?)**
- DK Dyke - dark, fine-grained intermediate to mafic intrusive
- JURASSIC**
- PENNASK BATHOLITH**
- DI Diorite - medium fine grained, medium grey intrusive containing plagioclase-biotite-hornblende-quartz
- UPPER TRIASSIC**
- NICOLA GROUP**
- AV Andesitic Volcanic - medium green, purple, or near-black volcanic rock, generally featureless, locally skarnified
- CS Coaling
- BR Fault breccia, some gouge
- GG Gouge - mainly crushed rock and small rock fragments
- QV Quartz vein - mainly quartz with varying amounts of calcite, pyrite, chalcopyrite, arsenopyrite

- SYMBOLS**
- ~~~~~ Shear or fault
- Quartz vein
- Lithologic contact

**TRACE OF DRILL HOLE**

SAMPLE #	AU oz/tm	Lithology
PEN95-1	0.002oz/t	DI
PEN95-2	0.002oz/t	QV
PEN95-3	0.002oz/t	QV

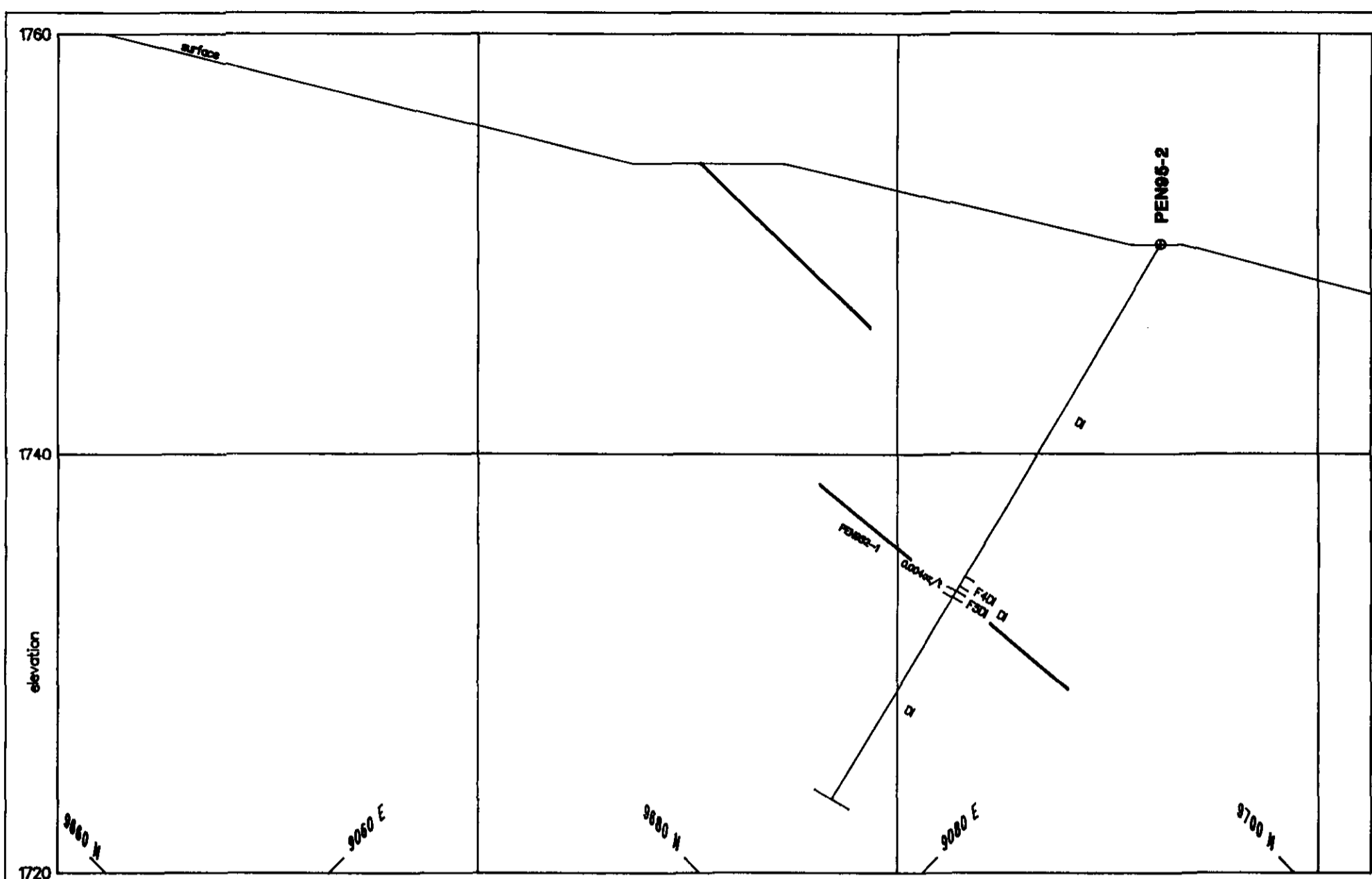
**DDH PEN95-1**  
 drilled at -60° inclination, 145° azimuth

**DDH PEN95-3**  
 drilled at -90° inclination, 000° azimuth

**FAIRFIELD MINERALS LTD.**  
 1080 - 1055 West Hastings Street Vancouver, British Columbia V6E 2E9

**PEN PROPERTY**  
 BRENDA LAKE AREA, Nicola M.D., NTS 92H/16E

**DIAMOND DRILL SECTION THROUGH DDH PEN95-1, 3**  
**LOOKING SOUTHWEST**  
**SCALE 1 : 250** 0 2.5m.



**LEGEND**

- LATE CRETACEOUS - TERTIARY (?)
- OTTER INTRUSIONS (?)
- DK Dyke - dark, fine-grained intermediate to mafic intrusive
- JURASSIC
- PENASK BATHOLITH
- DI Diorite - medium fine grained, medium grey intrusive containing plagioclase-biotite-hornblende-quartz
- UPPER TRIASSIC
- NOCLA GROUP
- AV Andesitic Volcanic - medium green, purple, or near-black volcanic rock, generally featureless, locally scarified
- CS Casing
- BR Fault breccia, some gouge
- GG Gouge - mainly crushed rock and small rock fragments
- QV Quartz vein - mainly quartz with varying amounts of calcite, pyrite, chalcopyrite, arsenopyrite

- SYMBOLS
- ~~~~~ Shear or fault
- Quartz vein
- Lithologic contact

TRACE OF DRILL HOLE

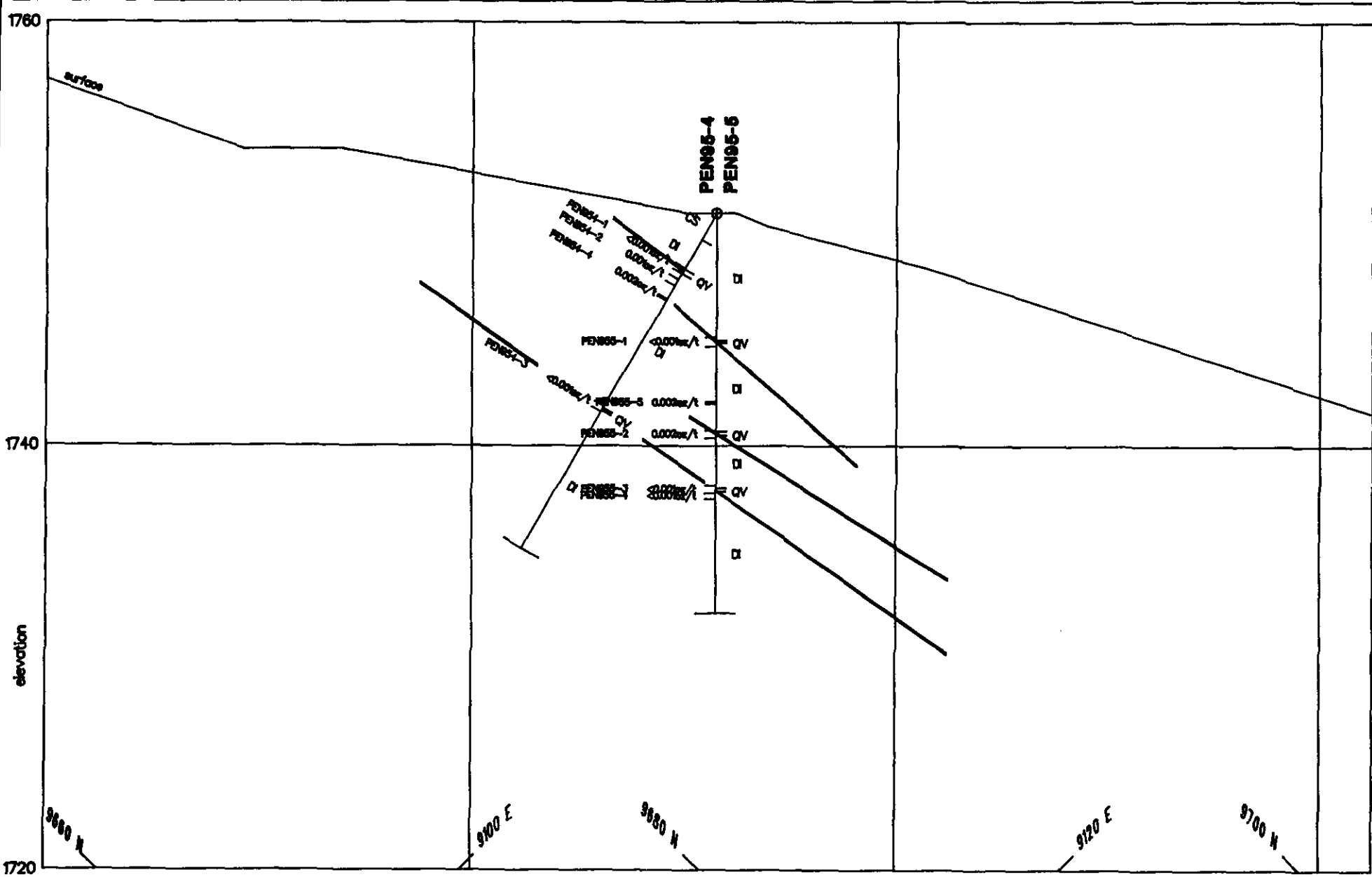
SAMPLE #	AU oz/ton	Lithology
PEN95-5	0.002oz/t	DI
PEN95-2	0.002oz/t	QV
PEN95-1	0.002oz/t	DI
PEN95-1	0.002oz/t	QV

DDH PEN95-2  
drilled at -60° inclination, 225° azimuth

<b>FAIRFIELD MINERALS LTD.</b> 1980 - 1055 West Hastings Street Vancouver, British Columbia V6E 2E9	
<b>PEN PROPERTY</b> BRENDA LAKE AREA, Nicola M.D., NTS 92H/16E	
<b>DIAMOND DRILL SECTION THROUGH DDH PEN95-2 LOOKING NORTHWEST</b> SCALE 1 : 250	
Drawn by PWC December, 1995	<b>Figure 5</b>

- ALTERATION CODES
- |    |           |    |                |
|----|-----------|----|----------------|
| Ax | Argillic  | Fx | Propylitic     |
| Cx | Carbonate | Rx | Skarn          |
| Fx | Phyllic   | Sx | Sericitic      |
| Kx | Potassic  | Xx | Silicification |
- x = 1 to 5 (weak to intense)





**LEGEND**

LATE CRETACEOUS - TERTIARY (?)

OTTER INTRUSIONS (?)

DK Dike - dark, fine-grained intermediate to mafic intrusive

JURASSIC

PENNASK BATHOLITH

DI Diorite - medium fine grained, medium grey intrusive containing plagioclase-biotite-hornblende-quartz

UPPER TRIASSIC

NICOLA GROUP

AV Andesitic Volcanic - medium green, purple, or near-black volcanic rock, generally featureless, locally skarnified

CS Coaling

BR Fault breccia, some gouge

GG Gouge - mainly crushed rock and small rock fragments

QV Quartz vein - mainly quartz with varying amounts of calcite, pyrite, chloropyrite, arsenopyrite

ALTERATION CODES

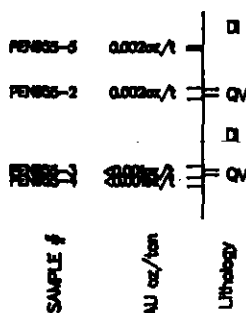
Ax	Argillic	Px	Propylitic
Cx	Carbonate	Rx	Silic
Fx	Phyllic	Sx	Sericitic
Kx	Potassic	Xx	Silicification

x = 1 to 5 (weak to intense)

SYMBOLS

~~~~ Shear or fault  
 — Quartz vein  
 --- Lithologic contact

TRACE OF DRILL HOLE



DDH PEN95-4

drilled at -60° inclination, 225° azimuth

DDH PEN95-5

drilled at -90° inclination, 000° azimuth

**FAIRFIELD MINERALS LTD.**

1900 - 1055 West Hastings Street Vancouver, British Columbia V6E 2E9

**PEN PROPERTY**

BRENDA LAKE AREA, Nicola M.D., NTS 92H/16E

**DIAMOND DRILL SECTION  
 THROUGH DDH PEN95-4, 5**

**LOOKING NORTHWEST**

**SCALE 1 : 250** 0 2.5m.

Drawn by PWC

December, 1995

**Figure 6**

## 7.0 PERSONNEL & CONTRACTORS

### Personnel:

|                                                 | <u>Time Period - 1995</u> | <u>Days Worked &amp; Description</u>                                                 |
|-------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|
| E.A. Balon, Prospector<br>North Vancouver, B.C. | June 14 - August 19       | 14 - Field supervision, grid layout, anomaly evaluation and follow-up (prospecting). |
| K. Cochrane, Technician<br>Vancouver, B.C.      | July 20 - 22              | 1 - Core Logging (Geotech.).                                                         |
| B. Post, Geologist<br>Vancouver, B.C.           | July 21 - 22              | 1 - Core Logging (Geol.).                                                            |
| D. Ritcey, Geologist<br>Vancouver, B.C.         | July 20 - 21              | 1 - Core Logging (Geol.).                                                            |
| J.D. Rowe, Geologist<br>North Vancouver, B.C.   | June 10 - July 21         | 4 - Drill site layout, drilling and reclamation supervision.                         |
| Y. Thornton, Sampler<br>Whistler, B.C.          | July 18 - August 17       | 11 - Soil sampling and travel.                                                       |
| J. Tindle, Sampler<br>Whistler, B.C.            | July 18 - August 17       | 11 - Soil sampling and travel.                                                       |

### Contractors:

|                                                                           |              |                                                                |
|---------------------------------------------------------------------------|--------------|----------------------------------------------------------------|
| Leclerc Drilling Ltd.<br>Beaverdell, B.C.<br>(two drillers & two helpers) | July 18 - 22 | 4 ½ - Diamond drilling (incl. mob/demob.) and site reclamation |
|---------------------------------------------------------------------------|--------------|----------------------------------------------------------------|

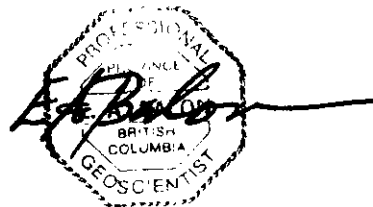
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## 8.0 STATEMENT OF COSTS

PEN PROPERTY

|                                               |                        |
|-----------------------------------------------|------------------------|
| PROFESSIONAL, TECHNICAL & GEOLOGICAL SERVICES | \$ 3,090               |
| SALARIES & BENEFITS                           | 11,650                 |
| DIAMOND DRILLING                              | 8,960                  |
| GEOCHEMICAL ANALYSIS, ASSAYS & FREIGHT        | 5,390                  |
| FOOD & ACCOMMODATION                          | 2,000                  |
| VEHICLE RENTAL AND SUPPLIES                   | <u>1,300</u>           |
| <b>TOTAL EXPENDITURES</b>                     | <b><u>\$32,390</u></b> |

\*\*\*\*



## 9.0 REFERENCES

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### Rowe, J.D.:

- 1992: 1991 Geochemical Report (Assessment) on the Pen Property.
- 1993: 1992 Prospecting Report (Assessment) on the Pen Property.

### Tempelman-Kluit, D.J.:

- 1989: Geology, Penticton, British Columbia, GSC Map 1736A, Scale 1:25;0,000

**10.0 STATEMENT OF QUALIFICATIONS**

I, Edward A. Balon, of North Vancouver, British Columbia hereby certify that:

1. I am a prospector and geological/mining technician residing at 501 - 250 West First Street, and employed by Fairfield Minerals Ltd. of 1980 - 1055 West Hastings Street, Vancouver, British Columbia V6E 2E9
2. I have received a Diploma in Mining Engineering Technology (integrated Geology, Mining and Metallurgy) from Northern College - Haileybury School of Mines, Ontario in 1970.
3. I have attended several Continuing Education Courses in Geoscience since 1970, including Exploration Geochemistry at the University of British Columbia, Vancouver, B. C. in 1984/85.
4. I am a member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia, registration number 20265.
5. I have practiced my profession for twenty-six years in British Columbia, Yukon and Northwest Territories.
6. I am the principal author of this report and supervisor of most of the field work conducted on the Pen claim group during the period June 10 to August 19, 1995.

**FAIRFIELD MINERALS LTD.**



**E. A. Balon, P. Geo**

June, 1996  
Vancouver, B.C.

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## STATEMENT OF QUALIFICATIONS

I, David Ritcey of Vancouver, British Columbia, hereby certify that:

I am a professional geologist residing at 24 East 12th Avenue and am employed by Fairfield Minerals Ltd. of 1980 - 1055 West Hastings Street, Vancouver, B.C.

I received a B.A. degree in Geology from Dalhousie University, Halifax, N.S. in 1989, and an M.Sc. degree in Geology from Memorial University of Newfoundland, St. John's, Nfld. in 1994.

I have practised my profession for 3 years in the Northwest Territories, Alberta, and British Columbia.

I am co-author of this report and performed part of the field work conducted on the Pen claim group for Fairfield Minerals Ltd. during July, 1995.

FAIRFIELD MINERALS LTD.



David Ritcey, B.Sc., B.A., M.Sc.  
Geologist

May, 1996  
Vancouver, B.C.

**11.0 DIAMOND DRILL LOGS AND SAMPLE RECORD**

## Key to Core Log Abbreviations

### LITHOLOGIES

|    |                              |
|----|------------------------------|
| AP | aplite                       |
| AV | andesitic volcanic           |
| BR | breccia                      |
| DI | diorite                      |
| GC | granodiorite (contact phase) |
| GD | granodiorite                 |
| GG | gouge                        |
| MD | mudstone                     |
| OB | overburden                   |
| PG | pegmatite                    |
| QF | quartz-feldspar porphyry     |
| QV | quartz vein                  |
| VS | volcanic/sediment            |

### ALTERATIONS

|    |                |
|----|----------------|
| Ax | argillic       |
| Cx | carbonate      |
| Fx | phyllitic      |
| Px | propylitic     |
| Sx | sericitic      |
| Xx | silicification |

x = 1 to 5, weak to intense

### MINERALS

|    |                   |
|----|-------------------|
| AB | albite            |
| AS | arsenopyrite      |
| CA | calcite           |
| CL | chlorite          |
| CY | clay              |
| EP | epidote           |
| GL | galena            |
| HE | hematite          |
| KF | potassic feldspar |
| LI | limonite          |
| PY | pyrite            |
| QZ | quartz            |
| SE | sericite          |
| SS | saussurite        |

### STRUCTURES

|    |                    |
|----|--------------------|
| BN | alteration banding |
| DK | dyke               |
| FO | foliation          |
| FR | fracture           |
| FT | fault              |
| GG | gouge band         |
| SH | shear              |
| ST | stringer           |
| VN | vein               |

### SULFIDE CONTENT

|    |          |
|----|----------|
| Y1 | 1 - 5%   |
| Y2 | 5 - 10%  |
| Y3 | 10 - 20% |
| Y4 | 20 - 30% |
| Y5 | > 30%    |



### SUMMARY DRILL LOG

DIAMOND DRILL HOLE NUMBER: PEN95-1

PAGE : 1 of 1

PROPERTY : Pen  
 AREA : Brenda Lake  
 CLAIM: Pen 10  
 SECTION : 9095E  
 CORE SIZE : NQ  
 RECOVERY : 91%

DIP : -60  
 AZIMUTH : 145  
 NORTHING : 9718.50  
 EASTING : 9093.00  
 ELEVATION : 1752.00  
 CORE STORED AT : Elk Property, Core Shack, Pallets

DEPTH : 35.66m  
 DATE STARTED : July 20, 1995  
 DATE FINISHED : July 20, 1995  
 CONTRACTOR : Leclerc Diamond Drilling, Ltd.  
 LOGGED BY : David Ritcey

COMMENTS *Diamond drill hole PEN95-1 was drilled to test the grade and continuity of the north-west dipping quartz vein intersected in trench PEN94-1. Two quartz veins, approximately 35cm and 10cm thick with trace to 7% pyrite were intersected. A number of stringers to 1cm thick were also intersected.*

| GEOLOGY RECORD |       |          |         | ASSAY RECORD  |      |      |        |           |
|----------------|-------|----------|---------|---------------|------|------|--------|-----------|
| From           | To    | Interval | Geology | Sample Number | From | To   | Length | Au oz/ton |
| 0.00           | 2.30  | 2.30     | OB      | PEN951-1      | 4.86 | 5.28 | 0.42   | 0.001     |
| 2.30           | 4.86  | 2.56     | P1DI    | PEN951-2      | 7.32 | 7.57 | 0.25   | 0.019     |
| 4.86           | 5.27  | 0.41     | QV      |               |      |      |        |           |
| 5.27           | 7.40  | 2.13     | DI      |               |      |      |        |           |
| 7.40           | 7.51  | 0.11     | Y2QV    |               |      |      |        |           |
| 7.51           | 16.08 | 8.57     | DI      |               |      |      |        |           |
| 16.08          | 16.37 | 0.29     | DK      |               |      |      |        |           |
| 16.37          | 29.90 | 13.53    | DI      |               |      |      |        |           |
| 29.90          | 30.60 | 0.70     | P2DI    |               |      |      |        |           |
| 30.6           | 35.66 | 5.06     | DI      |               |      |      |        |           |

| SURVEY DATA |     |         |            |
|-------------|-----|---------|------------|
| Depth       | Dip | Azimuth | Type       |
| 0           | -60 | 145     | Brunton    |
| 35.66       | -60 | 10.5    | Sperry Sun |

Test not reliable

## DDH PEN95-1

| FROM<br>(m) | TO<br>(m) | MAJOR | MINOR | STRUC | CORE<br>ANGLE | ALTERATION<br>MINERALS (%) | PY<br>% | OTHER<br>SULPHIDES | GANGUE<br>CONSTITUENTS (%) | COMMENTS                               |
|-------------|-----------|-------|-------|-------|---------------|----------------------------|---------|--------------------|----------------------------|----------------------------------------|
| 0.00        | 2.30      | OB    |       |       |               |                            |         |                    |                            |                                        |
| 2.30        | 4.86      | P1DI  |       |       |               | CL                         |         |                    |                            | STRONGLY FRACTURED AND WEATHERED       |
| 4.80        | 4.86      |       | F2DI  |       |               | QZ (5%), SE (2%)           |         |                    |                            | FRACTURED AND WEATHERED                |
| 4.86        | 5.27      | QV    |       | VN    | 80            |                            | < 0.5   |                    | QZ (90), F5DI (10)         | STRONGLY FRACTURED AND WEATHERED       |
| 5.27        | 7.40      | DI    |       |       |               |                            |         |                    |                            |                                        |
| 5.27        | 5.30      |       | F3DI  |       |               | QZ (10%), SE (2%)          |         |                    |                            |                                        |
| 5.43        |           |       |       | ST    | 50            |                            | < 0.5   |                    | QZ                         | 4 mm WIDE                              |
| 7.25        |           |       |       | ST    | 40            |                            | 1       |                    | QZ                         | 6 mm WIDE                              |
| 7.40        | 7.51      | Y2QV  |       | VN    | 56            |                            | 7       |                    | QZ (80), F3DI (12), CA (1) | MUCH PY WEATHERED                      |
| 7.51        | 16.06     | DI    |       | ST    | 30            |                            | < 0.5   |                    |                            | FEW PY STRINGERS - MOSTLY NEAR 30 DEG. |
| 9.26        |           |       |       | ST    | 80            |                            | 1       |                    | QZ                         | 8 mm WIDE                              |
| 9.80        |           |       |       | ST    | 56            |                            | < 0.5   |                    | QZ (97), CL (2)            | 4 mm WIDE                              |
| 10.00       |           |       |       | ST    | 55            |                            | 1       |                    | QZ                         | 4 mm WIDE                              |
| 10.68       |           |       |       | ST    | 50            |                            | 1       |                    | QZ                         | 5 mm WIDE                              |
| 16.06       | 16.37     | DK    |       | DK    | 45            |                            |         |                    |                            | FINE GRAINED DIORITE OR DIABASE DYKE   |
| 16.37       | 29.90     | DI    | P1DI  |       |               | CL                         |         |                    |                            | MAFIC MINERALS LOCALLY CHLORITIZED     |
| 22.78       | 22.82     |       | P1DK  | DK    | 55            | CL                         |         |                    |                            | INDISTINCT                             |
| 26.49       |           |       |       | ST    | 40            |                            | 2       |                    | QZ (95), CL (2), CA (1)    | 10 mm WIDE                             |
| 29.90       | 30.80     | P2DI  |       |       |               | CL                         |         |                    |                            |                                        |
| 30.02       |           |       |       | ST    | 65            |                            | 5       |                    | QZ (94), CL (1), CA (TR)   | 10 mm WIDE                             |
| 30.80       | 35.86     | DI    | P1DI  |       |               | CL                         |         |                    |                            | COMMON CA STRINGERS AT 20 - 40 DEG.    |
| 35.44       |           |       |       | FT    | 18            |                            |         |                    |                            |                                        |

### SUMMARY DRILL LOG

**DIAMOND DRILL HOLE NUMBER: PEN95-2**
**PAGE : 1 of 1**

|                           |                                                           |
|---------------------------|-----------------------------------------------------------|
| <b>PROPERTY :</b> Pen     | <b>DIP :</b> -60                                          |
| <b>AREA :</b> Brenda Lake | <b>AZIMUTH :</b> 225                                      |
| <b>CLAIM:</b> Pen 10      | <b>NORTHING :</b> 9695.50                                 |
| <b>SECTION :</b> 9085E    | <b>EASTING :</b> 9088.00                                  |
| <b>CORE SIZE :</b> NQ     | <b>ELEVATION :</b> 1750.00                                |
| <b>RECOVERY :</b> 88%     | <b>CORE STORED AT :</b> Elk Property, Core Shack, Pallets |

|                                                    |
|----------------------------------------------------|
| <b>DEPTH :</b> 30.78m                              |
| <b>DATE STARTED :</b> July 20, 1995                |
| <b>DATE FINISHED :</b> July 21, 1995               |
| <b>CONTRACTOR :</b> Leclerc Diamond Drilling, Ltd. |
| <b>LOGGED BY :</b> Brian Post                      |

**COMMENTS** *Diamond drill hole PEN95-2 was drilled to test the grade and continuity of the north-east dipping quartz vein exposed in trench PEN94-1. A zone of strongly phyllic-altered diorite with high sulfide content was intersected. No quartz veins were noted.*

| GEOLOGY RECORD |       |          |         | ASSAY RECORD  |       |       |        |           |        |        |
|----------------|-------|----------|---------|---------------|-------|-------|--------|-----------|--------|--------|
| From           | To    | Interval | Geology | Sample Number | From  | To    | Length | Au oz/ton | Ag ppm | Cu ppm |
| 0.00           | 18.45 | 18.45    | DI      | PEN952-1      | 19.24 | 19.58 | 0.34   | 0.004     | 3.2    | 1689   |
| 18.45          | 18.97 | 0.52     | F4DI    |               |       |       |        |           |        |        |
| 18.97          | 19.24 | 0.27     | DI      |               |       |       |        |           |        |        |
| 19.24          | 19.58 | 0.34     | F5DI    |               |       |       |        |           |        |        |
| 19.58          | 30.78 | 11.20    | DI      |               |       |       |        |           |        |        |

| SURVEY DATA |     |         |            |
|-------------|-----|---------|------------|
| Depth       | Dip | Azimuth | Type       |
| 0           | -60 | 225     | Brunton    |
| 29.26       | -59 | 227.5   | Sperry Sun |

## DDH PEN95-2

| FROM<br>(m) | TO<br>(m) | MAJOR | MINOR | STRUC | CORE<br>ANGLE | ALTERATION<br>MINERALS (%) | PY<br>% | OTHER<br>SULPHIDES | GANGUE<br>CONSTITUENTS (%) | COMMENTS                                |
|-------------|-----------|-------|-------|-------|---------------|----------------------------|---------|--------------------|----------------------------|-----------------------------------------|
| 0.00        | 18.45     | DI    |       | ST    | 30            |                            | < 0.5   |                    |                            | WEATHERED TO 9 m, FEW PY STGRS AT 30DEG |
| 11.39       |           |       | GG    | FT    | 5             |                            |         |                    |                            | 2 mm GG                                 |
| 18.40       |           |       |       | ST    | 15            |                            |         | CA (100)           |                            | 1 cm WIDE                               |
| 18.45       | 18.97     | F4DI  |       |       |               | QZ, SE                     | < 0.5   |                    |                            |                                         |
| 18.97       | 19.24     | DI    |       |       |               |                            |         |                    |                            |                                         |
| 19.24       | 19.58     | F6DI  |       |       |               | QZ, SE                     | 26      |                    |                            |                                         |
| 19.40       |           |       |       | ST    | 70            |                            | 90      | F5DI (10)          |                            | 8 mm WIDE                               |
| 19.58       | 30.78     | DI    |       |       |               |                            |         |                    |                            |                                         |
| 23.25       |           |       |       | ST    | 40            |                            |         | CA (100)           |                            | 2 cm WIDE                               |

## SUMMARY DRILL LOG

DIAMOND DRILL HOLE NUMBER:            **PEN95-3**

PAGE :                                        1 of 1

PROPERTY : Pen                                **DIP :**                                        -90  
 AREA : Brenda Lake                        **AZIMUTH :**                                0  
 CLAIM: Pen 10                                **NORTHING :**                               9737.00  
 SECTION : 9030E                             **EASTING :**                                9029.00  
 CORE SIZE : NQ                              **ELEVATION :**                             1749.00  
 RECOVERY : 84%                             **CORE STORED AT :** Elk Property, Core Shack, Pallets

**DEPTH :**                                        20.42m  
**DATE STARTED :**                            July 21, 1995  
**DATE FINISHED :**                         July 21, 1995  
**CONTRACTOR :**                              Leclerc Diamond Drilling, Ltd.  
**LOGGED BY :**                                David Ritcey

**COMMENTS** *Diamond drill hole PEN95-3 was drilled to test the grade and continuity of the north-west dipping quartz vein exposed in trench PEN94-1 and intersected in diamond drill hole PEN95-1. A 5cm quartz-calcite vein with trace pyrite was intersected. Moderately sericitized andesitic volcanic with several arsenopyrite-bearing stringers was also encountered.*

| GEOLOGY RECORD |       |          |         | ASSAY RECORD  |       |       |        |           |        |
|----------------|-------|----------|---------|---------------|-------|-------|--------|-----------|--------|
| From           | To    | Interval | Geology | Sample Number | From  | To    | Length | Au oz/ton | As ppm |
| 0.00           | 1.00  | 1.00     | OB      | PEN953-1      | 15.34 | 15.54 | 0.20   | <0.001    | 45     |
| 1.00           | 4.73  | 3.73     | DI      | PEN953-2      | 17.45 | 17.80 | 0.35   | 0.010     | 4320   |
| 4.73           | 5.00  | 0.27     | F3DI    |               |       |       |        |           |        |
| 5.00           | 5.50  | 0.50     | DI      |               |       |       |        |           |        |
| 5.50           | 6.25  | 0.75     | DI      |               |       |       |        |           |        |
| 6.25           | 14.33 | 8.08     | DI      |               |       |       |        |           |        |
| 14.33          | 15.40 | 1.07     | F3DI    |               |       |       |        |           |        |
| 15.40          | 15.45 | 0.05     | QV      |               |       |       |        |           |        |
| 15.45          | 15.82 | 0.37     | F3DI    |               |       |       |        |           |        |
| 15.82          | 17.10 | 1.28     | P2AV    |               |       |       |        |           |        |
| 17.10          | 17.33 | 0.23     | S3AV    |               |       |       |        |           |        |
| 17.33          | 20.42 | 3.09     | AV      |               |       |       |        |           |        |

## DDH PEN95-3

| FROM<br>(m) | TO<br>(m) | MAJOR | MINOR | STRUC | CORE<br>ANGLE | ALTERATION<br>MINERALS (%) | PY<br>%         | OTHER<br>SULPHIDES | GANGUE<br>CONSTITUENTS (%) | COMMENTS                                                                                                 |
|-------------|-----------|-------|-------|-------|---------------|----------------------------|-----------------|--------------------|----------------------------|----------------------------------------------------------------------------------------------------------|
| 0.00        | 1.00      | OB    |       |       |               |                            |                 |                    |                            |                                                                                                          |
| 1.00        | 4.73      | DI    |       |       |               |                            |                 |                    |                            |                                                                                                          |
| 4.73        | 5.00      | F3DI  |       |       |               | QZ (10%), SE               | < 0.5%          |                    |                            | MODERATELY WEATHERED AND FRACTURED<br>SILICIFIED AND RECRYSTALLIZED<br>ROUNDED FRAGMENTS - POOR RECOVERY |
| 5.00        | 6.50      | DI    |       |       |               |                            |                 |                    |                            | FINE GRAINED - DYKE ?                                                                                    |
| 5.50        | 6.25      | DI    |       |       |               |                            |                 |                    |                            | DIORITE OR PORPHYRITIC MAFIC VOLCANIC<br>SILICIFIED AND RECRYSTALLIZED                                   |
| 6.25        | 14.33     | DI    |       |       |               |                            |                 |                    |                            |                                                                                                          |
| 6.50        | 8.70      |       | F2DI  |       |               | QZ (10%), SE (TRACE)       |                 |                    |                            |                                                                                                          |
| 14.33       | 15.40     | F3DI  |       |       |               | QZ (10%), SE (1%)          | < 0.5%          |                    |                            | LOCALLY STRONGLY ALTERED AND RECRYSTALLIZED                                                              |
| 15.40       | 15.45     | QV    |       |       |               |                            | < 0.5%          |                    | QZ                         | SHEARED, FRACTURED, PARTLY HEALED                                                                        |
| 15.45       | 15.82     | F3DI  |       | ST    | 5             | QZ (5%), SE (5%)           | < 0.5%          |                    |                            | 1 mm QZ - CA - PY VENILET                                                                                |
| 15.82       | 17.10     | P2AV  |       |       |               | CL, SE                     |                 |                    |                            | FINE GRAINED ANDESITE OR BASALT                                                                          |
| 17.10       | 17.33     | S3AV  |       |       |               | SE                         |                 |                    |                            |                                                                                                          |
| 17.33       | 20.42     | AV    | S4AV  |       |               | SE                         |                 |                    |                            | LOCALLY SERICITIZED MAFIC VOLCANIC<br>IRREGULAR STRINGERS AT 0 - 40 DEG.                                 |
| 17.50       |           |       |       | ST    | 40            |                            | < 0.5% AS (12%) |                    |                            |                                                                                                          |

**SUMMARY DRILL LOG**
**DIAMOND DRILL HOLE NUMBER: PEN95-4**
**PAGE : 1 of 1**

**PROPERTY :** Pen                      **DIP :** -60  
**AREA :** Brenda Lake              **AZIMUTH :** 225  
**CLAIM:** Pen 10                      **NORTHING :** 9680.50  
**SECTION :** 9110E                   **EASTING :** 9108.50  
**CORE SIZE :** NQ                      **ELEVATION :** 1751.00  
**RECOVERY :** 82%                      **CORE STORED AT :** Elk Property, Core Shack, Pallets

**DEPTH :** 18.29m  
**DATE STARTED :** July 21, 1995  
**DATE FINISHED :** July 21, 1995  
**CONTRACTOR :** Leclerc Diamond Drilling, Ltd.  
**LOGGED BY :** Brian Post

**COMMENTS** *Diamond drill hole PEN95-4 was drilled to test the grade and continuity of the north-east dipping quartz vein exposed in trench PEN94-1 and targeted by diamond drill hole PEN95-2. Five quartz veins from 2cm to 25cm thick, containing trace to 1% pyrite were intersected.*

| GEOLOGY RECORD |       |          |         | ASSAY RECORD  |       |       |        |           |
|----------------|-------|----------|---------|---------------|-------|-------|--------|-----------|
| From           | To    | Interval | Geology | Sample Number | From  | To    | Length | Au oz/ton |
| 0.00           | 1.43  | 1.43     | OB      | PEN954-1      | 2.97  | 3.28  | 0.31   | <0.001    |
| 1.43           | 3.03  | 1.60     | DI      | PEN954-4      | 4.70  | 4.80  | 0.10   | 0.001     |
| 3.03           | 3.28  | 0.25     | QV      | PEN954-2      | 3.61  | 3.96  | 0.35   | 0.002     |
| 3.28           | 10.68 | 7.40     | DI      | PEN954-3      | 10.58 | 10.88 | 0.30   | <0.001    |
| 10.68          | 10.81 | 0.13     | QV      |               |       |       |        |           |
| 10.81          | 18.29 | 7.48     | DI      |               |       |       |        |           |

| SURVEY DATA |     |         |            |
|-------------|-----|---------|------------|
| Depth       | Dip | Azimuth | Type       |
| 0           | -60 | 225     | Brunton    |
| 18.29       | -60 | 225.5   | Sperry Sun |

## DDH PEN95-4

| FROM<br>(m) | TO<br>(m) | MAJOR | MINOR | STRUC | CORE<br>ANGLE | ALTERATION<br>MINERALS (%) | PY<br>% | OTHER<br>SULPHIDES | GANGUE<br>CONSTITUENTS (%) | COMMENTS                        |
|-------------|-----------|-------|-------|-------|---------------|----------------------------|---------|--------------------|----------------------------|---------------------------------|
| 0           | 1.43      | OB    |       |       |               |                            |         |                    |                            |                                 |
| 1.43        | 3.03      | DI    |       |       |               |                            |         |                    |                            | HEAVILY FRACTURED AND WEATHERED |
| 3.03        | 3.28      | QV    |       | VN    |               |                            | < 0.5%  |                    | QZ (99%)                   | FRACTURED AND WEATHERED         |
| 3.28        | 10.66     | DI    |       |       |               |                            |         |                    |                            |                                 |
| 3.41        |           |       |       | ST    | 80            |                            | 0       |                    | QZ (99%)                   | 1 cm WIDE                       |
| 3.76        | 3.82      |       | QV    |       |               |                            | < 0.5%  |                    | QZ (99%)                   | FRACTURED                       |
| 4.06        |           |       | QV    | VN    | 90            |                            | 0       |                    | QZ (99%)                   | 2 cm WIDE                       |
| 4.74        |           |       | QV    | VN    | 90            |                            | 1       |                    | QZ (99%), HE (TR), LI (TR) | 2 cm WIDE                       |
| 10.66       | 10.81     | QV    |       | VN    | 80            |                            | < 0.5%  |                    | QZ (99%)                   | FRACTURED                       |
| 10.81       | 18.29     | DI    |       |       |               |                            |         |                    |                            | FEW CA STRINGERS                |



## SUMMARY DRILL LOG

**DIAMOND DRILL HOLE NUMBER: PEN95-5**
**PAGE : 1 of 1**

|                           |                                                           |
|---------------------------|-----------------------------------------------------------|
| <b>PROPERTY :</b> Pen     | <b>DIP :</b> -90                                          |
| <b>AREA :</b> Brenda Lake | <b>AZIMUTH :</b> 0                                        |
| <b>CLAIM:</b> Pen 10      | <b>NORTHING :</b> 9680.50                                 |
| <b>SECTION :</b> 9110E    | <b>EASTING :</b> 9108.50                                  |
| <b>CORE SIZE :</b> NQ     | <b>ELEVATION :</b> 1751.00                                |
| <b>RECOVERY :</b> 81%     | <b>CORE STORED AT :</b> Elk Property, Core Shack, Pallets |

|                                                    |
|----------------------------------------------------|
| <b>DEPTH :</b> 18.90m                              |
| <b>DATE STARTED :</b> July 21, 1995                |
| <b>DATE FINISHED :</b> July 22, 1995               |
| <b>CONTRACTOR :</b> Leclerc Diamond Drilling, Ltd. |
| <b>LOGGED BY :</b> Brian Post                      |

**COMMENTS** *Diamond drill hole PEN95-5 was drilled to test the grade and continuity of the north-east dipping quartz vein exposed in trench PEN94-1 and intersected in diamond drill hole PEN95-4. Six quartz veins from 1.5cm to 20 cm thick, with rare traces of pyrite were intersected.*

| GEOLOGY RECORD |       |          |         | ASSAY RECORD  |       |       |        |           |
|----------------|-------|----------|---------|---------------|-------|-------|--------|-----------|
| From           | To    | Interval | Geology | Sample Number | From  | To    | Length | Au oz/ton |
| 0.00           | 6.05  | 6.05     | DI      | PEN955-1      | 5.89  | 6.33  | 0.44   | <0.001    |
| 6.05           | 6.16  | 0.11     | QV      | PEN955-5      | 8.95  | 9.05  | 0.10   | 0.002     |
| 6.16           | 10.35 | 4.19     | DI      | PEN955-2      | 10.30 | 10.65 | 0.35   | 0.002     |
| 10.35          | 10.55 | 0.20     | QV      | PEN955-3      | 12.89 | 13.26 | 0.37   | <0.001    |
| 10.55          | 13.02 | 2.47     | DI      | PEN955-4      | 13.26 | 13.53 | 0.27   | <0.001    |
| 13.02          | 13.18 | 0.16     | QV      |               |       |       |        |           |
| 13.18          | 18.90 | 5.72     | DI      |               |       |       |        |           |

## DDH PEN95-5

| FROM<br>(m) | TO<br>(m) | MAJOR | MINOR | STRUC | CORE<br>ANGLE | ALTERATION<br>MINERALS (%) | PY<br>% | OTHER<br>SULPHIDES | GANGUE<br>CONSTITUENTS (%) | COMMENTS                            |
|-------------|-----------|-------|-------|-------|---------------|----------------------------|---------|--------------------|----------------------------|-------------------------------------|
| 0.00        | 6.05      | DI    |       |       |               |                            |         |                    |                            | STRONGLY FRACTURED AND WEATHERED    |
| 6.06        | 6.16      | QV    |       |       |               |                            |         |                    | QZ (90)                    | VUGGY, FRACTURED                    |
| 6.16        | 10.35     | DI    | X2DI  |       |               |                            |         |                    |                            | FRACTURED AND WEATHERED             |
| 8.98        | 9.00      |       | QV    | VN    | 45            |                            | < 0.5%  |                    | QZ (90)                    | 16 mm WIDE                          |
| 10.35       | 10.55     | QV    |       | VN    | 90            |                            | < 0.5%  |                    | QZ (90), DI (10)           | VERY NARROW SILICIC ALTERATION HALO |
| 10.56       | 13.02     | DI    |       |       |               |                            |         |                    |                            |                                     |
| 13.02       | 13.18     | QV    |       |       |               |                            |         |                    | QZ (70), DI (30)           | SEVERAL SMALL CROSS-CUTTING VEINS   |
| 13.18       | 18.90     | DI    |       |       |               |                            |         |                    |                            |                                     |
| 13.34       |           |       |       | ST    | 60            |                            |         |                    | QZ (90), DI (10)           | 1 cm WIDE                           |
| 13.51       |           |       | QV    | VN    | 60            |                            |         |                    | QZ (90), DI (10)           | 15 mm WIDE                          |
| 16.29       |           |       | GG    | FT    | 40            |                            |         |                    |                            | 2 cm GG                             |

**SAMPLE RECORD**  
**1995 DIAMOND DRILLING - PEN PRPOERTY**

| Drill Hole # | Sample # | Depth<br>From (m) | Depth<br>To (m) | Interval<br>Length (m) | Geology   |
|--------------|----------|-------------------|-----------------|------------------------|-----------|
| PEN95-1      | PEN951-1 | 4.86              | 5.28            | 0.42                   | QV        |
| PEN95-1      | PEN951-2 | 7.32              | 7.57            | 0.25                   | QV        |
| PEN95-2      | PEN952-1 | 19.24             | 19.58           | 0.34                   | DI / FSD1 |
| PEN95-3      | PEN953-1 | 15.34             | 15.54           | 0.20                   | QV        |
| PEN95-3      | PEN953-2 | 17.45             | 17.80           | 0.35                   | AV / ST   |
| PEN95-4      | PEN954-1 | 2.97              | 3.28            | 0.31                   | QV        |
| PEN95-4      | PEN954-2 | 3.61              | 3.96            | 0.35                   | QV        |
| PEN95-4      | PEN954-3 | 10.58             | 10.88           | 0.30                   | QV        |
| PEN95-4      | PEN954-4 | 4.70              | 4.80            | 0.10                   | QV        |
| PEN95-5      | PEN955-1 | 5.89              | 6.33            | 0.44                   | QV        |
| PEN95-5      | PEN955-2 | 10.30             | 10.65           | 0.35                   | QV        |
| PEN95-5      | PEN955-3 | 12.89             | 13.26           | 0.37                   | QV        |
| PEN95-5      | PEN955-4 | 13.26             | 13.53           | 0.27                   | QV        |
| PEN95-5      | PEN955-5 | 8.95              | 9.05            | 0.10                   | QV        |

**12.0 ANALYSIS & ASSAY CERTIFICATES**

## GEOCHEMICAL ANALYSIS CERTIFICATE

Fairfield Minerals Ltd. PROJECT PEN #1 File # 95-1969

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Submitted by: E.A. Balon

| SAMPLE#      | Mo<br>ppm | Cu<br>ppm | Pb<br>ppm | Zn<br>ppm | Ag<br>ppm | Ni<br>ppm | Co<br>ppm | Mn<br>ppm | Fe<br>% | As<br>ppm | U<br>ppm | Au<br>ppm | Th<br>ppm | Sr<br>ppm | Cd<br>ppm | Sb<br>ppm | Bi<br>ppm | V<br>ppm | Ca<br>% | P<br>% | La<br>ppm | Cr<br>ppm | Mg<br>% | Ba<br>ppm | Ti<br>% | B<br>ppm | Al<br>% | Na<br>% | K<br>% | W<br>ppm | Au*<br>ppb |
|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|----------|------------|
| PEN 95-R1    | 2         | 258       | <3        | 11        | .5        | 14        | 14        | 142       | 3.21    | 6         | <5       | <2        | <2        | 3         | <.2       | <2        | <2        | 5        | .05     | .004   | 1         | 11        | .10     | 21        | <.01    | <3       | .26     | .01     | .01    | 2        | 16         |
| PEN 95-R2    | 3         | 10        | 13        | 4         | 25.8      | 8         | 1         | 66        | .76     | 5         | <5       | 126       | <2        | 1         | <.2       | <2        | 2692      | 2        | .01     | .001   | <1        | 14        | .01     | 9         | <.01    | <3       | .05     | .01     | .02    | 2        | 112000     |
| RE PEN 95-R2 | 2         | 11        | 14        | 5         | 13.2      | 8         | 1         | 66        | .79     | 5         | <5       | 51        | <2        | 1         | <.2       | <2        | 2881      | 2        | .01     | .001   | <1        | 14        | .01     | 9         | <.01    | <3       | .06     | .01     | .02    | 2        | 99000      |

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS &gt; 1%, AG &gt; 30 PPM &amp; AU &gt; 1000 PPB

- SAMPLE TYPE: ROCK AU\* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(20 gm)

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUN 26 1995

DATE REPORT MAILED: July 7/95

SIGNED BY.....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE

Fairfield Minerals Ltd. PROJECT PEN #2 File # 95-2258

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Submitted by: E.A. Balon

| SAMPLE#   | Mo  | Cu  | Pb  | Zn  | Ag  | Ni  | Co  | Mn  | Fe   | As  | U   | Au  | Th  | Sr  | Cd  | Sb  | Bi  | V   | Ca  | P    | La  | Cr  | Mg  | Ba  | Ti   | B   | Al  | Na   | K   | W   | Au* |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|
|           | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %    | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %   | %    | ppm | ppm | %   | ppm | %    | ppm | %   | %    | %   | ppm | ppb |
| PEN 95-R3 | 4   | 52  | 76  | 27  | .4  | 9   | 2   | 208 | 1.84 | 9   | <5  | <2  | <2  | 11  | 1.2 | <2  | <2  | 11  | .01 | .008 | 1   | 12  | .01 | 30  | <.01 | 4   | .17 | <.01 | .05 | 3   | 6   |

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.  
 ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
 - SAMPLE TYPE: ROCK AU\* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(20 gm)

DATE RECEIVED: JUL 13 1995 DATE REPORT MAILED: *July 21/95* SIGNED BY: *C. Leong* D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

## GEOCHEMICAL ANALYSIS CERTIFICATE

Fairfield Minerals Ltd. PROJECT PEN #3 File # 95-2636 Page 1

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Submitted by: Tindle

SAMPLE#

Au\*  
ppb

|             |    |
|-------------|----|
| 5900E 9850N | 21 |
| 5900E 9800N | 1  |
| 5900E 9750N | 10 |
| 5900E 9700N | 1  |
| 5900E 9650N | <1 |

|             |    |
|-------------|----|
| 5900E 7700N | 1  |
| 5900E 7650N | 2  |
| 5900E 7600N | 8  |
| 5900E 7550N | 54 |
| 5900E 7500N | 8  |

|             |   |
|-------------|---|
| 5950E 9850N | 8 |
| 5950E 9800N | 2 |
| 5950E 9750N | 1 |
| 5950E 9700N | 1 |
| 5950E 9650N | 2 |

|             |     |
|-------------|-----|
| 5950E 7700N | 3   |
| 5950E 7650N | 4   |
| 5950E 7600N | 120 |
| 5950E 7550N | 5   |
| 5950E 7500N | 140 |

|                |    |
|----------------|----|
| 6050E 9850N    | 2  |
| 6050E 9800N    | 19 |
| 6050E 9750N    | 2  |
| 6050E 9700N    | 2  |
| RE 6050E 9700N | 2  |

|             |    |
|-------------|----|
| 6050E 9650N | 8  |
| 6050E 7700N | 4  |
| 6050E 7650N | 46 |
| 6050E 7600N | 3  |
| 6050E 7550N | 2  |

|             |   |
|-------------|---|
| 6050E 7500N | 2 |
| 6100E 9850N | 1 |
| 6100E 9800N | 1 |
| 6100E 9750N | 2 |
| 6100E 9700N | 3 |

STANDARD AU-S 48

- SAMPLE TYPE: SOIL AU\* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.  
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 31 1995

DATE REPORT MAILED: Aug 5/95

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 6100E 9650N    | <1         |
| 6100E 9600N    | 1          |
| 6100E 9550N    | 2          |
| 6100E 9500N    | <1         |
| 6100E 9450N    | 1          |
| 6100E 9400N    | <1         |
| 6100E 7700N    | <1         |
| 6100E 7650N    | 2          |
| 6100E 7600N    | 1          |
| 6100E 7550N    | 2          |
| 6100E 7500N    | 2          |
| 6100E 6750N    | 4          |
| 6100E 6700N    | 1          |
| 6100E 6650N    | 1          |
| 6100E 6600N    | 4          |
| 6100E 6550N    | 1          |
| 6100E 6500N    | 1          |
| 6150E 9600N    | 2          |
| 6150E 9550N    | 2          |
| 6150E 9500N    | 4          |
| 6150E 9450N    | 2          |
| 6150E 9400N    | 1          |
| 6150E 6750N    | <1         |
| RE 6150E 6750N | <1         |
| 6150E 6700N    | <1         |
| 6150E 6650N    | 8          |
| 6150E 6550N    | 1          |
| 6150E 6500N    | 7          |
| 6250E 9600N    | <1         |
| 6250E 9550N    | 1          |
| 6250E 9500N    | 4          |
| 6250E 9450N    | 1          |
| 6250E 9400N    | 1          |
| 6300E 6950N    | 2          |
| 6300E 6900N    | 35         |
| STANDARD AU-S  | 46         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.





ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 6300E 6850N    | 1          |
| 6300E 6800N    | 1          |
| 6300E 6750N    | 2          |
| 6300E 6700N    | 2          |
| 6300E 6650N    | 7          |
| 6300E 6600N    | <1         |
| 6300E 6550N    | 11         |
| 6300E 6500N    | 3          |
| 6350E 6950N    | 2          |
| 6350E 6900N    | 2          |
| 6350E 6850N    | 2          |
| 6350E 6800N    | 14         |
| 6350E 6750N    | 20         |
| 6350E 6700N    | 1          |
| 6350E 6650N    | 1          |
| 6350E 6600N    | 2          |
| 6350E 6550N    | 4          |
| 6350E 6500N    | 2          |
| 6450E 6950N    | 3          |
| 6450E 6900N    | 4          |
| 6450E 6850N    | 2          |
| RE 6450E 6850N | 3          |
| 6450E 6800N    | <1         |
| 6450E 6750N    | 3          |
| 6450E 6700N    | <1         |
| 6450E 6650N    | 2          |
| 6450E 6600N    | 2          |
| 6450E 6550N    | <1         |
| 6450E 6500N    | 17         |
| 6500E 6950N    | 1          |
| 6500E 6900N    | 3          |
| 6500E 6850N    | 3          |
| 6500E 6800N    | 1          |
| 6500E 6750N    | 3          |
| 6500E 6700N    | <1         |
| STANDARD AU-S  | 52         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 6500E 6650N    | 3          |
| 6500E 6600N    | 2          |
| 6500E 6550N    | 1          |
| 6500E 6500N    | 1          |
| 6700E 6100N    | 1          |
| 6700E 6050N    | 1          |
| 6700E 6000N    | 8          |
| 6700E 5950N    | 2          |
| 6700E 5900N    | 3          |
| 6750E 9900N    | 4          |
| 6750E 9850N    | 1          |
| 6750E 9800N    | 1          |
| 6750E 9750N    | 3          |
| 6750E 9700N    | 1          |
| 6750E 8650N    | 4          |
| 6750E 8600N    | 1          |
| RE 6750E 8600N | 3          |
| 6750E 8550N    | 2          |
| 6750E 8500N    | 2          |
| 6750E 8450N    | 2          |
| 6750E 8400N    | 1          |
| 6750E 8350N    | 3          |
| 6750E 8300N    | 9          |
| 6750E 8250N    | 2          |
| 6750E 8200N    | 1          |
| 6750E 8150N    | 2          |
| 6750E 6100N    | 3          |
| 6750E 6050N    | 4          |
| 6750E 6000N    | 150        |
| 6750E 5950N    | 5          |
| 6750E 5900N    | 5          |
| 6850E 9900N    | 2          |
| 6850E 9850N    | 1          |
| 6850E 9800N    | 1          |
| 6850E 9750N    | 1          |
| STANDARD AU-S  | 48         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 6850E 9700N    | <1         |
| RE 6850E 9700N | 2          |
| 6850E 8300N    | <1         |
| 6850E 8250N    | 1          |
| 6850E 8200N    | 2          |
| 6850E 8150N    | 2          |
| 6850E 7600N    | 3          |
| 6850E 7550N    | 1          |
| 6850E 7500N    | 4          |
| 6850E 7450N    | <1         |
| 6850E 7400N    | <1         |
| 6850E 6100N    | 2          |
| 6850E 6050N    | 2          |
| 6850E 6000N    | 4          |
| 6850E 5950N    | 1          |
| 6850E 5900N    | 1          |
| 6900E 9900N    | 2          |
| 6900E 9850N    | 1          |
| 6900E 9800N    | 1          |
| 6900E 9750N    | <1         |
| 6900E 9700N    | <1         |
| 6900E 9550N    | <1         |
| 6900E 9500N    | 1          |
| 6900E 9450N    | <1         |
| 6900E 9400N    | <1         |
| 6900E 9350N    | <1         |
| 6900E 8300N    | 1          |
| 6900E 8250N    | <1         |
| 6900E 8150N    | <1         |
| 6900E 6400N    | 1          |
| 6900E 6350N    | <1         |
| 6900E 6300N    | 1          |
| 6900E 6250N    | 1          |
| 6900E 6200N    | 1          |
| 6900E 6150N    | <1         |
| STANDARD AU-S  | 48         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 6900E 6100N    | 2          |
| 6900E 6000N    | 180        |
| 6900E 5950N    | 1          |
| 6900E 5900N    | 2          |
| 6950E 9550N    | <1         |
| 6950E 9500N    | <1         |
| 6950E 9450N    | <1         |
| 6950E 9400N    | 1          |
| 6950E 9350N    | 2          |
| 6950E 6400N    | 1          |
| 6950E 6350N    | 1          |
| 6950E 6300N    | 1          |
| 6950E 6250N    | 3          |
| 6950E 6200N    | <1         |
| 6950E 6150N    | 6          |
| 7050E 9550N    | 1          |
| 7050E 9500N    | 19         |
| 7050E 9450N    | 2          |
| 7050E 9400N    | 2          |
| 7050E 9350N    | 1          |
| 7050E 7700N    | 1          |
| RE 7050E 7700N | 1          |
| 7050E 7650N    | 1          |
| 7050E 6400N    | <1         |
| 7050E 6350N    | 48         |
| 7050E 6300N    | 3          |
| 7050E 6250N    | 4          |
| 7050E 6200N    | 1          |
| 7050E 6150N    | 3          |
| 7100E 9550N    | 1          |
| 7100E 9500N    | <1         |
| 7100E 9450N    | 1          |
| 7100E 9400N    | 1          |
| 7100E 9350N    | 2          |
| 7100E 7700N    | 2          |
| STANDARD AU-S  | 48         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 7100E 7650N    | 18         |
| 7100E 6400N    | <1         |
| RE 7100E 6400N | <1         |
| 7100E 6350N    | <1         |
| 7100E 6300N    | 10         |
| 7100E 6250N    | 1          |
| 7100E 6200N    | 4          |
| 7100E 6150N    | <1         |
| 7100E 6100N    | 1          |
| 7150E 7850N    | 2          |
| 7150E 7800N    | 1          |
| 7150E 7750N    | 2          |
| 7150E 7700N    | 2          |
| 7150E 7650N    | 98         |
| 7150E 7600N    | 5          |
| 7150E 7550N    | <1         |
| 7150E 7500N    | <1         |
| 7150E 7450N    | 1          |
| 7150E 7400N    | 1          |
| 7150E 6300N    | 5          |
| 7150E 6250N    | 7          |
| 7150E 6200N    | 1          |
| 7150E 6150N    | 6          |
| 7150E 6100N    | 1          |
| 7700E 8800N    | 3          |
| 7700E 8750N    | 6          |
| 7700E 8700N    | 1          |
| 7750E 8800N    | 2          |
| 7750E 8750N    | 3          |
| 7750E 8700N    | 2          |
| 7850E 8800N    | 2          |
| 7850E 8750N    | 4          |
| 7850E 8700N    | 78         |
| 7900E 8800N    | 4          |
| 7900E 8750N    | 4          |
| STANDARD AU-S  | 47         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 7900E 8700N    | 3          |
| 8100E 9450N    | 2          |
| 8100E 9400N    | <1         |
| 8100E 9350N    | 1          |
| 8100E 9300N    | <1         |
| 8100E 9250N    | 1          |
| RE 8100E 9250N | 1          |
| 8100E 9200N    | 4          |
| 8100E 8800N    | 3          |
| 8100E 8750N    | 2          |
| 8150E 9450N    | <1         |
| 8150E 9400N    | 1          |
| 8150E 9350N    | 2          |
| 8150E 9300N    | <1         |
| 8150E 9250N    | 32         |
| 8150E 9200N    | 3          |
| 8150E 8800N    | 3          |
| 8150E 8750N    | 65         |
| 8250E 9450N    | 3          |
| 8250E 9400N    | 3          |
| 8250E 9350N    | 2          |
| 8250E 9300N    | 1          |
| 8250E 9250N    | 1          |
| 8300E 9450N    | 1          |
| 8300E 9400N    | 3          |
| 8300E 9350N    | 21         |
| 8300E 9300N    | 7          |
| 8300E 9250N    | 2          |
| 8350E 8250N    | 3          |
| 8350E 8200N    | 2          |
| 8350E 8150N    | 1          |
| 8350E 8100N    | 3          |
| 8450E 8250N    | 3          |
| 8450E 8200N    | 15         |
| 8450E 8150N    | 1          |
| STANDARD AU-S  | 45         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 8450E 8100N    | 2          |
| 8450E 7600N    | 2          |
| 8450E 7550N    | 2          |
| 8450E 7500N    | 1          |
| 8450E 7450N    | 16         |
| 8450E 7400N    | 24         |
| 8450E 7350N    | 18         |
| 8450E 7300N    | 3          |
| 8500E 9600N    | 5          |
| 8500E 9550N    | 6          |
| 8500E 9500N    | 3          |
| 8500E 9450N    | 3          |
| 8500E 9400N    | 19         |
| 8500E 8800N    | 10         |
| 8500E 8750N    | 13         |
| RE 8500E 8750N | 42         |
| 8500E 8700N    | 3          |
| 8500E 8650N    | 2          |
| 8500E 8600N    | 7          |
| 8500E 8550N    | 5          |
| 8500E 8500N    | 3          |
| 8500E 7350N    | 19         |
| 8500E 7300N    | 2          |
| 8550E 9600N    | 2          |
| 8550E 9550N    | 4          |
| 8550E 9500N    | 4          |
| 8550E 9450N    | 2          |
| 8550E 9400N    | 2          |
| 8550E 8600N    | 2          |
| 8550E 8550N    | 3          |
| 8550E 7850N    | 6          |
| 8550E 7800N    | 8          |
| 8550E 7750N    | 8          |
| 8550E 7700N    | 3          |
| 8550E 7650N    | 7          |
| STANDARD AU-S  | 45         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



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| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 8550E 7600N    | 10         |
| 8550E 7350N    | 2          |
| 8550E 7300N    | 4          |
| 8650E 9600N    | 5          |
| 8650E 9550N    | 4          |
| 8650E 9500N    | 3          |
| RE 8650E 9500N | 1          |
| 8650E 9450N    | <1         |
| 8650E 9400N    | 2          |
| 8650E 8800N    | 3          |
| 8650E 8750N    | 1          |
| 8650E 8700N    | 1          |
| 8650E 8650N    | 11         |
| 8650E 8600N    | 5          |
| 8650E 8550N    | 10         |
| 8650E 8500N    | 3          |
| 8650E 8450N    | 2          |
| 8650E 8400N    | 4          |
| 8650E 7700N    | 4          |
| 8650E 7650N    | 2          |
| 8700E 9600N    | 3          |
| 8700E 9550N    | 3          |
| 8700E 9500N    | 3          |
| 8700E 9450N    | 1          |
| 8700E 9400N    | <1         |
| 8700E 8800N    | 1          |
| 8700E 8750N    | 4          |
| 8700E 8700N    | 2          |
| 8700E 8650N    | 2          |
| 8700E 8600N    | 2          |
| 8700E 8550N    | <1         |
| 8700E 8500N    | 1          |
| 8700E 8450N    | <1         |
| 8700E 8400N    | 62         |
| 8700E 7650N    | 1          |
| STANDARD AU-S  | 46         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 8700E 7700N    | 7          |
| 8750E 7700N    | 2          |
| 8750E 7650N    | 3          |
| 8750E 7600N    | 3          |
| 8750E 7550N    | 1          |
| 8750E 7500N    | 29         |
| 8850E 8300N    | 17         |
| 8850E 8250N    | 3          |
| 8850E 8200N    | 3          |
| 8850E 8150N    | 5          |
| 8850E 8100N    | 2          |
| 9100E 9000N    | 2          |
| 9100E 8950N    | 17         |
| 9100E 8900N    | 7          |
| 9100E 8850N    | 6          |
| 9100E 8800N    | 7          |
| 9100E 8750N    | 5          |
| 9100E 8700N    | 7          |
| 9100E 8650N    | 32         |
| 9150E 9000N    | 3          |
| 9150E 8950N    | 4          |
| 9150E 8900N    | 2          |
| 9150E 8850N    | 3          |
| 9150E 8800N    | 67         |
| RE 9150E 8800N | 5          |
| 9150E 8750N    | 4          |
| 9150E 8700N    | 10         |
| 9150E 8650N    | 5          |
| 9250E 9000N    | 1          |
| 9250E 8950N    | 2          |
| 9250E 8900N    | 5          |
| 9250E 8850N    | 1          |
| 9250E 8800N    | 9          |
| 9250E 8750N    | 140        |
| 9250E 8700N    | 4          |
| STANDARD AU-S  | 46         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 9250E 8650N    | 3          |
| 9300E 9000N    | 3          |
| 9300E 8950N    | 2          |
| 9300E 8900N    | 2          |
| 9300E 8850N    | 3          |
| 9300E 8800N    | 3          |
| 9300E 8750N    | 2          |
| 9300E 8700N    | 1          |
| 9500E 8600N    | 3          |
| 9500E 8550N    | 3          |
| 9500E 8500N    | 4          |
| 9500E 8450N    | 2          |
| 9500E 8400N    | 3          |
| 9500E 8350N    | 4          |
| 9500E 5350N    | 7          |
| 9500E 5300N    | 1          |
| 9500E 5250N    | 3          |
| 9500E 5200N    | 4          |
| 9500E 5150N    | 6          |
| RE 9500E 5150N | 2          |
| 9500E 5100N    | 3          |
| 9550E 8600N    | 2          |
| 9550E 8550N    | 4          |
| 9550E 8500N    | 3          |
| 9550E 8450N    | 2          |
| 9550E 8400N    | 3          |
| 9550E 8350N    | 2          |
| 9550E 6900N    | 7          |
| 9550E 6850N    | 5          |
| 9550E 6800N    | 3          |
| 9550E 6750N    | 8          |
| 9550E 6700N    | 5          |
| 9550E 6650N    | 3          |
| 9550E 6600N    | 5          |
| 9550E 6550N    | 4          |
| STANDARD AU-S  | 46         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 9550E 6500N    | 59         |
| 9550E 6450N    | 14         |
| 9550E 6400N    | 4          |
| 9550E 6350N    | 19         |
| 9550E 6300N    | 5          |
| 9550E 6250N    | 6          |
| 9550E 6200N    | 6          |
| 9550E 6150N    | 7          |
| 9550E 6100N    | 6          |
| 9550E 6050N    | 10         |
| 9550E 6000N    | 45         |
| 9550E 5350N    | 4          |
| 9550E 5300N    | 3          |
| 9550E 5250N    | 3          |
| 9550E 5200N    | 2          |
| 9550E 5150N    | 2          |
| 9550E 5100N    | 2          |
| 9650E 8600N    | 3          |
| 9650E 8550N    | 11         |
| 9650E 8500N    | 17         |
| 9650E 8450N    | 2          |
| 9650E 8400N    | 12         |
| 9650E 8350N    | 3          |
| 9650E 6900N    | 2          |
| RE 9650E 6900N | 2          |
| 9650E 6850N    | 4          |
| 9650E 6800N    | 3          |
| 9650E 6750N    | 3          |
| 9650E 6700N    | 9          |
| 9650E 6650N    | 4          |
| 9650E 6600N    | 4          |
| 9650E 6550N    | 2          |
| 9650E 6500N    | 7          |
| 9650E 5350N    | 5          |
| 9650E 5300N    | 4          |
| STANDARD AU-S  | 49         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 9650E 5250N    | 1          |
| 9650E 5200N    | 2          |
| 9650E 5150N    | 5          |
| 9650E 5100N    | 2          |
| 9700E 8600N    | <1         |
| 9700E 8550N    | 1          |
| 9700E 8500N    | 1          |
| 9700E 8450N    | <1         |
| 9700E 8400N    | 1          |
| 9700E 8350N    | 3          |
| 9700E 5850N    | 4          |
| 9700E 5800N    | 19         |
| 9700E 5750N    | 6          |
| 9700E 5700N    | 8          |
| 9700E 5650N    | 2          |
| 9700E 5600N    | <1         |
| 9700E 5550N    | 3          |
| 9700E 5500N    | 1          |
| 9700E 5450N    | 2          |
| 9700E 5400N    | 1          |
| 9700E 5350N    | 1          |
| 9700E 5300N    | 1          |
| 9700E 5250N    | <1         |
| RE 9700E 5250N | <1         |
| 9700E 5200N    | 1          |
| 9700E 5100N    | 1          |
| 9700E 5050N    | 2          |
| 9700E 5000N    | 71         |
| 9700E 4950N    | 1          |
| 9700E 4900N    | 1          |
| 9750E 7750N    | 2          |
| 9750E 7700N    | <1         |
| 9750E 7650N    | 30         |
| 9750E 7600N    | <1         |
| 9750E 7550N    | <1         |
| STANDARD AU-S  | 47         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 9750E 6150N    | 4          |
| 9750E 6100N    | 3          |
| 9750E 6050N    | 7          |
| 9750E 5850N    | 2          |
| 9750E 5800N    | 63         |
| 9750E 5750N    | 4          |
| 9750E 5700N    | 2          |
| 9750E 5650N    | 3          |
| 9750E 5600N    | 5          |
| 9750E 5550N    | 6          |
| 9750E 5500N    | 2          |
| 9750E 5450N    | 16         |
| 9750E 5400N    | 6          |
| 9750E 5350N    | 1          |
| 9750E 5300N    | 18         |
| RE 9750E 5300N | 8          |
| 9750E 5250N    | 5          |
| 9750E 5200N    | 2          |
| 9750E 5100N    | 2          |
| 9750E 5050N    | 9          |
| 9750E 5000N    | 2          |
| 9750E 4950N    | 21         |
| 9750E 4900N    | 2          |
| 9850E 7700N    | 1          |
| 9850E 7650N    | 2          |
| 9850E 7600N    | 4          |
| 9850E 7550N    | 6          |
| 9850E 7500N    | 2          |
| 9850E 5850N    | 3          |
| 9850E 5800N    | 20         |
| 9850E 5750N    | 4          |
| 9850E 5700N    | 2          |
| 9850E 5650N    | 2          |
| 9850E 5600N    | 2          |
| 9850E 5550N    | 6          |
| STANDARD AU-S  | 47         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 9850E 5500N    | 3          |
| 9850E 5450N    | 6          |
| 9850E 5400N    | 2          |
| 9850E 5350N    | 1250       |
| 9850E 5300N    | 6          |
| 9850E 5250N    | 7          |
| 9850E 5200N    | 13         |
| 9850E 5100N    | 140        |
| 9850E 5050N    | 9          |
| 9850E 5000N    | 220        |
| 9850E 4950N    | <1         |
| 9850E 4900N    | <1         |
| 9900E 7700N    | <1         |
| 9900E 7650N    | 1          |
| 9900E 7600N    | <1         |
| 9900E 7550N    | <1         |
| 9900E 7500N    | 6          |
| 9900E 5850N    | 2          |
| 9900E 5800N    | 17         |
| 9900E 5750N    | 3          |
| 9900E 5700N    | 2          |
| 9900E 5650N    | 4          |
| 9900E 5600N    | 4          |
| 9900E 5550N    | 1          |
| RE 9900E 5550N | 2          |
| 9900E 5500N    | 3          |
| 9900E 5450N    | 2          |
| 9900E 5400N    | 8          |
| 9900E 5350N    | 3          |
| 9900E 5300N    | 4          |
| 9900E 5250N    | 3          |
| 9900E 5200N    | 2          |
| 9900E 5100N    | 3          |
| 9900E 5050N    | 4          |
| 9900E 5000N    | 3          |
| STANDARD AU-S  | 51         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#         | Au*<br>ppb |
|-----------------|------------|
| 9900E 4950N     | 5          |
| 9900E 4900N     | 1          |
| 9950E 7700N     | 1          |
| 9950E 7650N     | 2          |
| 9950E 7600N     | 1          |
| 9950E 7550N     | 3          |
| 9950E 7500N     | 1          |
| 9950E 6500N     | 2          |
| 9950E 6450N     | 2          |
| 9950E 6400N     | 12         |
| 9950E 6350N     | 2          |
| 10050E 7700N    | 4          |
| 10050E 7650N    | <1         |
| 10050E 7600N    | 6          |
| 10050E 7550N    | 7          |
| 10050E 7500N    | 1          |
| RE 10050E 7500N | <1         |
| 10050E 5850N    | 1          |
| 10050E 5800N    | 1          |
| 10050E 5750N    | 2          |
| 10050E 5700N    | 3          |
| 10050E 5650N    | 4          |
| 10050E 5600N    | 5          |
| 10050E 5550N    | 3          |
| 10050E 5500N    | 3          |
| 10050E 5450N    | 2          |
| 10050E 5400N    | 1          |
| 10050E 5350N    | <1         |
| 10050E 5300N    | 3          |
| 10050E 5250N    | 2          |
| 10100E 7700N    | 1          |
| 10100E 7650N    | 1          |
| 10100E 7600N    | 3          |
| 10100E 7550N    | <1         |
| 10100E 7500N    | 48         |
| STANDARD AU-S   | 46         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#         | Au*<br>ppb |
|-----------------|------------|
| 10100E 5850N    | 4          |
| 10100E 5800N    | 2          |
| 10100E 5750N    | 10         |
| 10100E 5700N    | 4          |
| RE 10100E 5700N | 3          |
| 10100E 5650N    | 3          |
| 10150E 5850N    | 2          |
| 10150E 5800N    | 4          |
| 10150E 5750N    | 27         |
| 10150E 5700N    | 7          |
| 10150E 5650N    | 5          |
| 10250E 5850N    | 3          |
| 10250E 5800N    | 3          |
| 10250E 5750N    | 3          |
| 10250E 5700N    | 7          |
| 10250E 5650N    | 4          |
| 10300E 7700N    | 2          |
| 10300E 7650N    | 4          |
| 10300E 7600N    | 8          |
| 10300E 7550N    | 2          |
| 10300E 7500N    | 2          |
| 10300E 5850N    | 2          |
| 10300E 5800N    | 3          |
| 10300E 5750N    | 3          |
| 10300E 5700N    | 5          |
| 10300E 5650N    | 2          |
| 10300E 5600N    | 3          |
| 10300E 5550N    | 9          |
| 10300E 5500N    | 5          |
| 10300E 5450N    | 4          |
| 10300E 5400N    | 2          |
| 10300E 5350N    | 11         |
| 10300E 5300N    | 14         |
| 10300E 5250N    | 6          |
| 10300E 5200N    | 7          |
| STANDARD AU-S   | 47         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.





ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#         | Au*<br>ppb |
|-----------------|------------|
| 10300E 5050N    | 5          |
| 10300E 5000N    | 3          |
| 10300E 4950N    | <1         |
| 10300E 4900N    | 1          |
| 10300E 4850N    | 3          |
| 10350E 7700N    | 1          |
| 10350E 7650N    | 1          |
| 10350E 7600N    | 36         |
| 10350E 7550N    | 18         |
| 10350E 7500N    | 2          |
| 10350E 5750N    | 2          |
| 10350E 5700N    | 3          |
| 10350E 5650N    | 5          |
| 10350E 5600N    | 4          |
| 10350E 5550N    | 18         |
| 10350E 5500N    | 2          |
| 10350E 5450N    | 17         |
| 10350E 5400N    | <1         |
| 10350E 5350N    | 2          |
| RE 10350E 5350N | 2          |
| 10350E 5300N    | 7          |
| 10350E 5250N    | 4          |
| 10350E 5200N    | 3          |
| 10350E 5050N    | 14         |
| 10350E 5000N    | 30         |
| 10350E 4950N    | 1          |
| 10350E 4900N    | 2          |
| 10350E 4850N    | 37         |
| 10350E 4700N    | 1          |
| 10350E 4650N    | 3          |
| 10350E 4600N    | 1          |
| 10350E 4550N    | 1          |
| 10350E 4500N    | 1          |
| 10350E 4450N    | 2          |
| 10350E 4400N    | 1          |
| STANDARD AU-S   | 51         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

| SAMPLE#         | Au*<br>ppb |
|-----------------|------------|
| 10350E 4350N    | 9          |
| 10450E 7700N    | 2          |
| 10450E 7650N    | 1          |
| 10450E 7600N    | 10         |
| 10450E 7550N    | 3          |
| 10450E 7500N    | 2          |
| 10450E 5750N    | 3          |
| 10450E 5700N    | <1         |
| 10450E 5650N    | 1          |
| 10450E 5600N    | 3          |
| 10450E 5550N    | <1         |
| 10450E 5500N    | 1          |
| 10450E 5450N    | 3          |
| 10450E 5400N    | 1          |
| RE 10450E 5400N | 2          |
| 10450E 5350N    | 6          |
| 10450E 5300N    | 16         |
| 10450E 5250N    | 4          |
| 10450E 5200N    | 14         |
| 10450E 5050N    | 1          |
| 10450E 5000N    | 8          |
| 10450E 4950N    | 2          |
| 10450E 4900N    | 3          |
| 10450E 4850N    | 1          |
| 10500E 7700N    | 4          |
| 10500E 7650N    | 1          |
| 10500E 7600N    | 2          |
| 10500E 7550N    | 5          |
| 10500E 7500N    | <1         |
| 10500E 5750N    | 2          |
| 10500E 5700N    | 5          |
| 10500E 5650N    | 3          |
| 10500E 5600N    | 16         |
| 10500E 5550N    | 2          |
| 10500E 5500N    | 7          |
| STANDARD AU-S   | 46         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACME ANALYTICAL



ACME ANALYTICAL

| SAMPLE#         | Au*<br>ppb |
|-----------------|------------|
| 10500E 5450N    | <1         |
| 10500E 5400N    | 4          |
| 10500E 5350N    | 3          |
| 10500E 5300N    | 2          |
| RE 10500E 5300N | 11         |
| 10500E 5250N    | 3          |
| 10500E 5200N    | 3          |
| 10500E 5050N    | 3          |
| 10500E 5000N    | 9          |
| 10500E 4950N    | 5          |
| 10500E 4900N    | 1          |
| 10500E 4850N    | <1         |
| 11000E 4450N    | 1          |
| 11000E 4400N    | 1          |
| 11150E 4450N    | 1          |
| 11150E 4400N    | 3          |
| STANDARD AU-S   | 48         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

AA  
LL

## GEOCHEMICAL ANALYSIS CERTIFICATE

Fairfield Minerals Ltd. PROJECT PEN #4 File # 95-3080 Page 1

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Submitted by: E.A. Balon

AA  
LL

| SAMPLE#     | Mo<br>ppm | Cu<br>ppm | Pb<br>ppm | Zn<br>ppm | Ag<br>ppm | Ni<br>ppm | Co<br>ppm | Mn<br>ppm | Fe<br>% | As<br>ppm | U<br>ppm | Au<br>ppm | Th<br>ppm | Sr<br>ppm | Cd<br>ppm | Sb<br>ppm | Bi<br>ppm | V<br>ppm | Ca<br>% | P<br>% | La<br>ppm | Cr<br>ppm | Mg<br>% | Ba<br>ppm | Ti<br>% | B<br>ppm | Al<br>% | Na<br>% | K<br>% | W<br>% | Au*<br>ppm | Au*<br>ppb |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|--------|------------|------------|
| PEN95-R4    | 11        | 44        | 8         | 10        | 6.0       | 7         | 1         | 136       | 2.06    | 3         | <5       | <2        | <2        | 9         | .2        | 2         | 14        | 4        | .03     | .011   | 3         | 7         | .04     | 48        | .01     | <3       | .26     | .03     | .15    | 2      | 1720       |            |
| PEN95-R5    | 5         | 19        | 5         | 7         | .8        | 8         | 1         | 75        | 1.54    | 79        | <5       | <2        | <2        | 5         | <.2       | 2         | 2         | 2        | .01     | .007   | 2         | 10        | .02     | 21        | <.01    | <3       | .14     | .02     | .06    | <2     | 79         |            |
| PEN95-R6    | 4         | 17        | 4         | 7         | .7        | 9         | 1         | 132       | .74     | 39        | <5       | <2        | <2        | 1         | <.2       | <2        | 9         | 2        | .02     | .004   | 2         | 12        | .04     | 10        | <.01    | 3        | .13     | .02     | .03    | 3      | 300        |            |
| RE PEN95-R6 | 3         | 18        | 5         | 7         | .8        | 9         | 1         | 250       | .79     | 42        | <5       | <2        | <2        | 1         | .2        | 2         | 8         | 2        | .02     | .004   | 2         | 11        | .04     | 10        | <.01    | 4        | .13     | .02     | .03    | 3      | 250        |            |

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS &gt; 1%, AG &gt; 30 PPM &amp; AU &gt; 1000 PPB

- SAMPLE TYPE: P1 ROCK P2 TO P5 SOIL AU\* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(30 gm)

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 24 1995

DATE REPORT MAILED: Sept 1/95

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

AA  
LL

## GEOCHEMICAL ANALYSIS CERTIFICATE

Fairfield Minerals Ltd. PROJECT PEN #4 File # 95-3080 Page 2

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Submitted by: E.A. Balon

AA  
LL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 8850E 1000N    | 9          |
| 8850E 9950N    | 14         |
| 8850E 9900N    | 2          |
| 8850E 9850N    | 55         |
| 8850E 9800N    | 2          |
| 8900E 1000N    | 3          |
| 8900E 9950N    | 3          |
| 8900E 9900N    | 1          |
| RE 8900E 9900N | 2          |
| 8900E 9850N    | 2          |
| 8900E 9800N    | 2          |
| 8950E 1000N    | 10         |
| 8950E 9950N    | 1          |
| 8950E 9900N    | 52         |
| 8950E 9850N    | 4          |
| 8950E 9800N    | 1          |
| 9000E 1000N    | 3          |
| 9000E 9950N    | 1          |
| 9000E 9900N    | 5          |
| 9000E 9850N    | 4          |
| 9000E 9800N    | 3          |
| 9050E 1000N    | 2          |
| 9050E 9950N    | 7          |
| 9050E 9900N    | <1         |
| 9050E 9850N    | 20         |
| 9050E 9800N    | 2          |
| 9100E 1000N    | 2          |
| 9100E 9950N    | 4          |
| 9100E 9900N    | 1          |
| 9100E 9850N    | 4          |
| 9100E 9800N    | 9          |
| 9150E 1000N    | 1          |
| 9150E 9950N    | 2          |
| 9150E 9900N    | 1          |
| 9150E 9850N    | 430        |
| 9150E 9800N    | 5          |
| STANDARD AU-S  | 46         |

- SAMPLE TYPE: P1 ROCK P2 TO P5 SOIL AU\* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.  
 Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 24 1995

DATE REPORT MAILED: *Sept 1/95*SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

AA  
LL  
ACME ANALYTICALAA  
LL  
ACME ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 9500E 1000N    | 3          |
| 9500E 9950N    | 3          |
| 9500E 9900N    | <1         |
| 9500E 9850N    | 2          |
| 9550E 1000N    | 1          |
| 9550E 9950N    | 1          |
| 9550E 9900N    | 4          |
| 9550E 9850N    | 1          |
| 9650E 1000N    | 1          |
| 9650E 9950N    | 1          |
| 9650E 9900N    | 3          |
| 9650E 9850N    | 2          |
| 9700E 1000N    | 3          |
| 9700E 9950N    | 2          |
| 9700E 9900N    | 5          |
| 9700E 9850N    | 1          |
| RE 9700E 9850N | 3          |
| 9800E 9950N    | 7          |
| 9800E 9900N    | 4          |
| 9800E 9850N    | 2          |
| 9800E 9800N    | 3          |
| 9800E 9750N    | 1          |
| 9800E 9700N    | 3          |
| 9800E 9650N    | 4          |
| 9800E 9600N    | 3          |
| 9800E 9550N    | 4          |
| 9800E 9500N    | 49         |
| 9800E 9450N    | 2          |
| 9800E 9400N    | 2          |
| 9800E 9350N    | 5          |
| 9800E 9300N    | 25         |
| 9800E 9250N    | 4          |
| 9800E 9200N    | 3          |
| 9800E 9150N    | 11         |
| 9800E 9100N    | 3          |
| STANDARD AU-S  | 52         |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



ACHE ANALYTICAL



ACHE ANALYTICAL

| SAMPLE#        | Au*<br>ppb |
|----------------|------------|
| 9800E 9050N    | 2          |
| 9800E 9000N    | 11         |
| RE 9800E 9000N | 3          |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



| SAMPLE#                                                  | Au*<br>ppb  |
|----------------------------------------------------------|-------------|
| 6600E 11050N(D)<br>6600E 11200N(D)<br>RE 6600E 11200N(D) | 2<br>5<br>1 |

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.



## GEOCHEMICAL/ASSAY CERTIFICATE

Fairfield Minerals Ltd. PROJECT PEN/D95-1 File # 95-2500

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Submitted by: David Ritcey

| SAMPLE#         | Mo<br>ppm | Cu<br>ppm | Pb<br>ppm | Zn<br>ppm | Ag<br>ppm | Ni<br>ppm | Co<br>ppm | Mn<br>ppm | Fe<br>% | As<br>ppm | U<br>ppm | Au<br>ppm | Th<br>ppm | Sr<br>ppm | Cd<br>ppm | Sb<br>ppm | Bi<br>ppm | V<br>ppm | Ca<br>% | P<br>% | La<br>ppm | Cr<br>ppm | Mg<br>% | Ba<br>ppm | Ti<br>% | B<br>ppm | Al<br>% | Na<br>% | K<br>% | W Au**<br>ppm oz/t |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|--------|-----------|-----------|---------|-----------|---------|----------|---------|---------|--------|--------------------|
| PEN951-1        | 2         | 20        | <3        | 11        | <.3       | 7         | 3         | 150       | 1.01    | 7         | <5       | <2        | <2        | 2         | .3        | <2        | <2        | 16       | .06     | .009   | 2         | 11        | .31     | 19        | .01     | <3       | .44     | .02     | .07    | <2<.001            |
| PEN951-2        | 2         | 99        | 4         | 25        | <.3       | 7         | 10        | 193       | 3.09    | 18        | <5       | <2        | <2        | 7         | .4        | <2        | 8         | 41       | .11     | .021   | 6         | 18        | .76     | 109       | .09     | <3       | 1.17    | .04     | .65    | 20 .019            |
| PEN952-1        | 3         | 1689      | 4         | 28        | 3.2       | 119       | 288       | 136       | 19.74   | <2        | <5       | <2        | 2         | 26        | .6        | <2        | 5         | 31       | .63     | .051   | 4         | 35        | .59     | 18        | .05     | <3       | 1.45    | .06     | .05    | 29 .004            |
| PEN953-1        | 4         | 47        | <3        | 35        | <.3       | 8         | 14        | 644       | 3.71    | 45        | <5       | <2        | <2        | 395       | 1.7       | <2        | <2        | 14       | 5.72    | .036   | 4         | 2         | 2.49    | 20        | <.01    | 4        | .46     | .02     | .16    | <2<.001            |
| PEN953-2        | 1         | 35        | <3        | 114       | <.3       | 7         | 7         | 367       | 2.47    | 4320      | <5       | <2        | <2        | 32        | 1.5       | <2        | 4         | 41       | .82     | .034   | 7         | 14        | .56     | 106       | .08     | <3       | 1.07    | .09     | .57    | 10 .010            |
| PEN954-1        | 3         | 12        | <3        | 4         | <.3       | 7         | 1         | 88        | .52     | 30        | <5       | <2        | <2        | 3         | .2        | <2        | 2         | 4        | .05     | .002   | <1        | 11        | .04     | 8         | .01     | <3       | .08     | .01     | .01    | 10<.001            |
| PEN954-2        | 2         | 47        | <3        | 36        | <.3       | 8         | 9         | 316       | 2.78    | 5         | <5       | <2        | <2        | 56        | <.2       | <2        | 2         | 97       | 1.04    | .049   | 1         | 12        | .93     | 331       | .20     | <3       | 2.28    | .17     | .50    | <2 .002            |
| PEN954-3        | 2         | 46        | <3        | 33        | <.3       | 7         | 6         | 298       | 2.68    | 9         | <5       | <2        | <2        | 24        | .3        | <2        | 4         | 93       | .68     | .042   | <1        | 14        | .98     | 60        | .17     | <3       | 1.57    | .10     | .11    | 2<.001             |
| RE PEN954-3     | 2         | 47        | <3        | 33        | <.3       | 7         | 7         | 306       | 2.73    | 8         | <5       | <2        | <2        | 25        | <.2       | <2        | 4         | 94       | .69     | .042   | <1        | 13        | .99     | 61        | .17     | <3       | 1.59    | .10     | .10    | 2<.001             |
| RRE PEN954-3    | 2         | 46        | <3        | 34        | <.3       | 7         | 7         | 297       | 2.69    | 12        | <5       | <2        | <2        | 25        | <.2       | <2        | 3         | 94       | .69     | .043   | <1        | 14        | .99     | 62        | .17     | <3       | 1.58    | .10     | .11    | <2<.001            |
| PEN955-1        | 6         | 125       | <3        | 49        | <.3       | 9         | 23        | 488       | 4.75    | 14        | <5       | <2        | <2        | 14        | .8        | <2        | 4         | 134      | .30     | .046   | 3         | 17        | 1.37    | 89        | .08     | <3       | 1.91    | .04     | .11    | 2<.001             |
| PEN955-2        | 3         | 95        | <3        | 26        | <.3       | 9         | 6         | 214       | 2.29    | 9         | <5       | <2        | <2        | 36        | <.2       | <2        | 2         | 65       | .61     | .033   | <1        | 11        | .60     | 283       | .15     | <3       | 1.40    | .14     | .57    | <2 .002            |
| PEN955-3        | 1         | 52        | <3        | 25        | <.3       | 8         | 7         | 271       | 2.28    | 2         | <5       | <2        | <2        | 51        | <.2       | <2        | 3         | 83       | .80     | .041   | <1        | 12        | .80     | 365       | .18     | <3       | 1.82    | .19     | .72    | <2<.001            |
| STANDARD C/AU-1 | 20        | 63        | 35        | 121       | 6.9       | 76        | 32        | 1045      | 3.60    | 43        | 16       | 7         | 36        | 50        | 19.1      | 13        | 22        | 67       | .48     | .088   | 41        | 54        | .85     | 171       | .07     | 27       | 1.66    | .06     | .13    | 10 .100            |

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS &gt; 1%, AG &gt; 30 PPM &amp; AU &gt; 1000 PPB

- SAMPLE TYPE: CORE AU\*\* BY FIRE ASSAY FROM 1 A.T. SAMPLE.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 25 1995 DATE REPORT MAILED:

Aug 1/95

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

AA

## GEOCHEMICAL/ASSAY CERTIFICATE

AA

Fairfield Minerals Ltd. PROJECT PEN/D95-2 File # 95-2633

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Submitted by: David Ritcey

| SAMPLE#     | Mo  | Cu  | Pb  | Zn  | Ag  | Ni  | Co  | Mn  | Fe   | As  | U   | Au  | Th  | Sr  | Cd  | Sb  | Bi  | V   | Ca  | P    | La  | Cr  | Mg  | Ba  | Ti  | B   | Al   | Na  | K   | W  | Au**  |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|-----|-----|----|-------|
|             | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %    | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | %   | %    | ppm | ppm | %   | ppm | %   | ppm | %    | %   | %   | %  | ppm   |
| PEN954-4    | 3   | 92  | 10  | 142 | .5  | 7   | 10  | 230 | 4.45 | 6   | <5  | <2  | <2  | 65  | .2  | 4   | <2  | 83  | .69 | .053 | 5   | 12  | .81 | 365 | .21 | 4   | 2.37 | .14 | .70 | <2 | .001  |
| PEN955-4    | 2   | 41  | 14  | 42  | .3  | 8   | 8   | 279 | 2.66 | 5   | <5  | <2  | <2  | 44  | <.2 | 3   | <2  | 82  | .90 | .048 | 4   | 12  | .92 | 329 | .23 | 4   | 2.03 | .17 | .70 | <2 | <.001 |
| PEN955-5    | 3   | 191 | 13  | 47  | .4  | 10  | 16  | 337 | 3.95 | 13  | <5  | <2  | <2  | 35  | .4  | 5   | <2  | 83  | .66 | .046 | 4   | 12  | .94 | 273 | .19 | 3   | 2.25 | .13 | .70 | <2 | .002  |
| RE PEN955-5 | 2   | 187 | 12  | 47  | .4  | 11  | 16  | 338 | 4.01 | 10  | <5  | <2  | <2  | 35  | <.2 | <2  | <2  | 84  | .68 | .046 | 4   | 13  | .95 | 259 | .20 | 3   | 2.25 | .12 | .68 | <2 | <.001 |

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS &gt; 1%, AG &gt; 30 PPM &amp; AU &gt; 1000 PPB

- SAMPLE TYPE: CORE AU\*\* BY FIRE ASSAY FROM 1 A.T. SAMPLE.

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 1 1995

DATE REPORT MAILED: Aug 10/95

SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



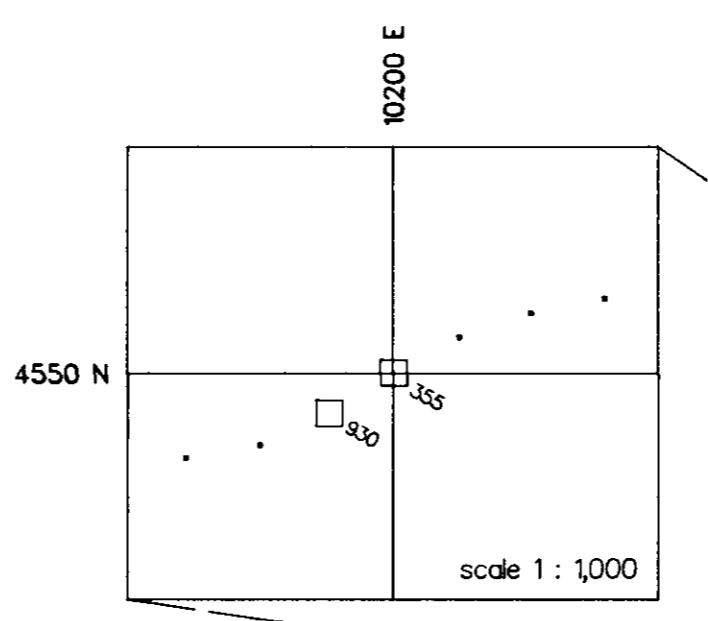
Hidden Lake

Brenda Lake

BRENDA MINE  
OPEN PIT  
(Copper - Molybdenum Deposit)

BRENDA LAKE AREA  
(Figure 3)  
1994 Trenching &  
1995 Drilling

CREST CLAIMS  
(Fairfield Minerals Ltd.)



GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

24,469

LEGEND

SOIL SAMPLE SITES

|   |      |   |                                 |
|---|------|---|---------------------------------|
| ● | 1990 | ● | LESS THAN OR EQUAL TO 10 ppb Au |
| ▲ | 1995 | ○ | GREATER THAN 10 ppb Au          |
| △ | 1994 | □ | GREATER THAN 20 ppb Au          |
| △ |      | □ | GREATER THAN 50 ppb Au          |
| △ |      | □ | GREATER THAN 100 ppb Au         |

NOTE: VALUES LESS THAN 10 PPB NOT POSTED  
REFER TO FIGURE 2 FOR GRID LOCATION

— ANOMALY TRENDS

☼ SWAMP

*[Signature]*

**FAIRFIELD MINERALS LTD.**  
1900 - 1055 West Hastings Street Vancouver, British Columbia V6E 2E9

**PEN PROPERTY**  
Nicola, Osoyoos, and Shuswap Mining Divisions  
NTS 92H/18E & 92E/19W, B.C.

**AU SOIL  
GEOCHEMISTRY** (M1)

SCALE 1 : 10,000 0 100 m.

Drawn by PWC  
December, 1995

Plate 1