1993

GEOCHEMICAL REPORT on the PEN PROPERTY

Nicola, Similkameen and Osoyoos Mining Divisions, B.C.
NTS: 92H/16E & 82E/13W
Lat 49°53'N; Long 120°04'W

JAN. 1994. (BC '93 ASSESSMENT)

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1993 PROSPECTING REPORT

ON THE PEN PROPERTY

Nicola, Similkameen and Osoyoos Mining Divisions, B.C.
NTS: 92H/16E and 82E/13W
Latitude 49°53'N; Longitude 120°04'W

For

FAIRFIELD MINERALS LTD.
Vancouver, British Columbia

By

E. A. Balon, P.Geo

CORDILLERAN ENGINEERING LTD.
1980-1055 W. Hastings St.
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Date Submitted: January 1994
Field Period: June 15-28, 1993

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1.0 SUMMARY AND CONCLUSIONS

The Pen property, located 42 kilometres west of Kelowna, B.C., comprises 37 claims (310 units) in the Nicola, Similkameen and Osoyoos Mining Divisions. The claims, staked during 1990 and 1991, are owned 100 percent by Fairfield Minerals Ltd. Exploration, managed by Cordilleran Engineering Ltd. is focusing on gold-bearing structures in volcanic and intrusive rocks.

The Okanagan Connector highway (97C) cuts the northern claims and numerous logging roads traverse the property providing excellent access. Moderately steep-sided Pennask Mountain underlies much of the western property; to the east flatter terrain is cut by a steep canyon along Peachland Creek. Bedrock exposure is abundant at higher elevations, 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 is presently bulk sampling a high-grade vein system containing drill indicated reserves of over 215,000 ounces of gold.

The Pen property is underlain predominantly by a large pendant of volcanic and sedimentary rocks in contact to the east with a granodiorite batholith and intruded, on the western claims, by a small stock. A number of quartz vein occurrences have been discovered within each of the host rock units and small sulphide skarn pods were found in metasedimentary rocks.

Grab samples from widely scattered mineral showings on the property have returned several significant gold values in the range of 0.1 to over 0.9 oz/ton. Observed quartz veins are generally narrow, drusy, with sparse pyrite or limonite and occasional pyrrhotite, arsenopyrite, galena or chalcopyrite.

Wide-spaced and fill-in soil sampling undertaken in 1990 and 1991 provided 3287 samples which were analyzed for gold, outlining four large anomalous areas containing many sites with values greater than 50 ppb, up to a high of 590 ppb Au. Further sampling in 1993 completed reconnaissance-grid (400m x 50m) coverage on three areas of the property not previously tested, and minor fill-in was conducted within one of these areas. This work generated another 1157 soils, for a total to date of 4444. Scattered weak to moderate gold anomalies in the 21 to >50 ppb range were defined in each area.

Prospecting and geological evaluation of anomalous soil sites was begun in 1991 and continued during 1992 and 1993. The 1993 program included eight mandays of follow-up around the strongest of the newly-generated anomalies. This follow-up comprised prospecting and limited rock, stream sediment and fill-in soil geochemistry. Samples collected were analyzed for several other elements in addition to gold.

Within the 1993 East Grid area, south and northeast of Brenda Lake, several occurrences of significant gold-bearing limonitic quartz were located in shallow overburden and in altered volcanic outcrop. Some large float fragments were found, indicating local veins having appreciable widths of 10 to 30 centimetres. Five of ten rock samples collected from this area returned anomalous gold values of 110 to 35,800 ppb (Assay - 0.912 oz/ton). Two of the samples also yielded very strong bismuth (365 and 441 ppm) and anomalous silver (2.5 and 5.3 ppm).

Only a few site evaluations were made in the other two areas of 1993 soil sampling (NW and SW Grids). Most of the anomalous gold sites examined occur in extensive overburden cover. A single sample of quartz vein float in argillite terrane on the Southwest Grid returned a low gold value (10 ppb).

The 1993 sample results, plus those from numerous other mineral occurrences found since 1986 to present in the area of the Pen property, indicate that significant gold and silver mineralization is contained within sulphide-bearing quartz veins or stockworks. The area of greatest gold potential identified to date is peripheral to the Brenda Cu-Mo porphyry system which is centered directly east of the Pen claims. This system may be zoned, with gold mineralization concentrated at the outer edges, away from the copper-rich core. Further work is warranted on the Pen property, focusing both on structures which may host potential high-grade gold veins as well as on stockwork vein systems which could yield large tonnages of low-grade gold mineralization.

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2.0 RECOMMENDATIONS

Additional soil sampling (200m x 50m) adjacent to existing 400-metre spaced lines should be completed in anomalous gold areas presently not having such coverage. A total of 25 line-kilometres (500 samples) is estimated.

Fill-in sampling at 50m by 50m should be continued around stations with values $\geq$ 20 ppb Au to better define anomalous trends. A total of 2500 samples is estimated, principally from the eastern part of the property south of Brenda Lake.

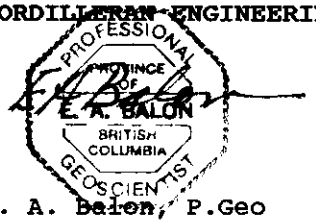
Detailed prospecting of gold anomalies should be carried out and samples collected from any altered or mineralized rocks. Approximately 200 reconnaissance rock samples are estimated, and these should be analyzed for gold (AA) plus 30 elements (ICP). Those with anomalous values should be assayed for gold and silver.

Selected areas with strong gold geochemical trends should be surveyed by VLF-EM and magnetometer to locate possible major structures which may have localized gold mineralization.

Any outcropping quartz veins having widths $\geq$10 cm and carrying significant gold values (as determined by reconnaissance sampling) should be panel-sampled at 5-metre spaced sections. Larger areas of exposed bedrock containing gold occurrences in alteration zones with quartz stockworks should be continuous-chip sampled, at 25-metre spaced sections. Intervening or surrounding overburden cover, along strong geochemical trends and coincident geophysical signatures, should be test-pitted or trenched to bedrock (on sample sections) by blasting if practical, or with a small excavator. Test pits and trenches should be cleaned and chip sampled to define continuity of mineralization and grade boundaries. Several hundred rock geochemical and selected assay samples are estimated. These should be tested for gold and silver plus other elements at discretion.

Stockwork targets with indicated good continuity of surface gold grade $\geq$0.044 oz/ton ($\geq$1500 ppb) outlined over a large area should be reverse circulation drill tested to a maximum depth of 150 metres (500 ft.), initially at 50-metre hole spacing. Drill chips should be logged and sampled at minimum 1.5m (5-foot) intervals to control the number of samples and consequent analytical costs.

Respectfully submitted
CORDILLERAN ENGINEERING LTD.



E. A. Balon, P.Geo

EAB/z
January 1994

3.0 INTRODUCTION

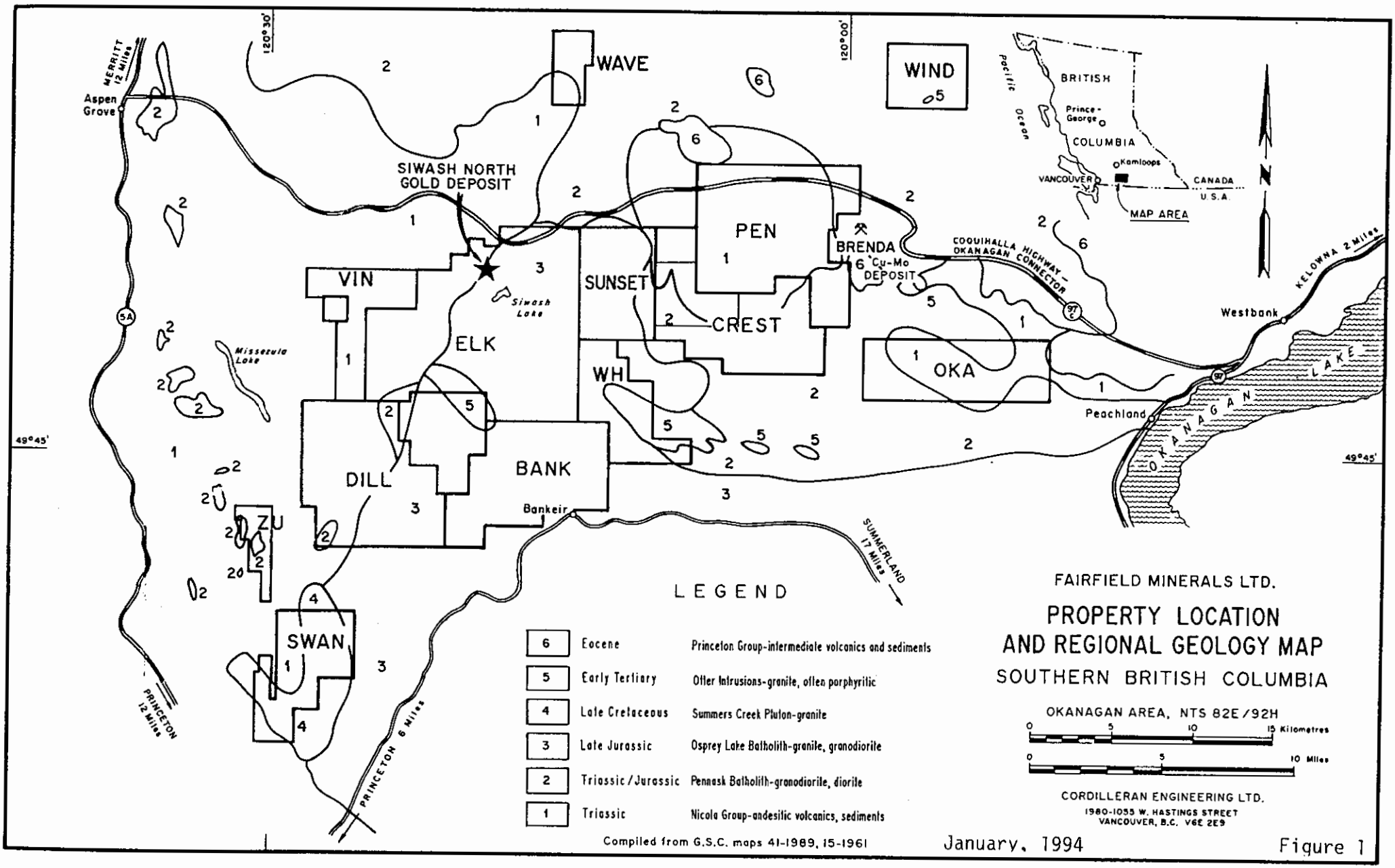
3.1 LOCATION AND PHYSIOGRAPHY (Figures 1 and 2)

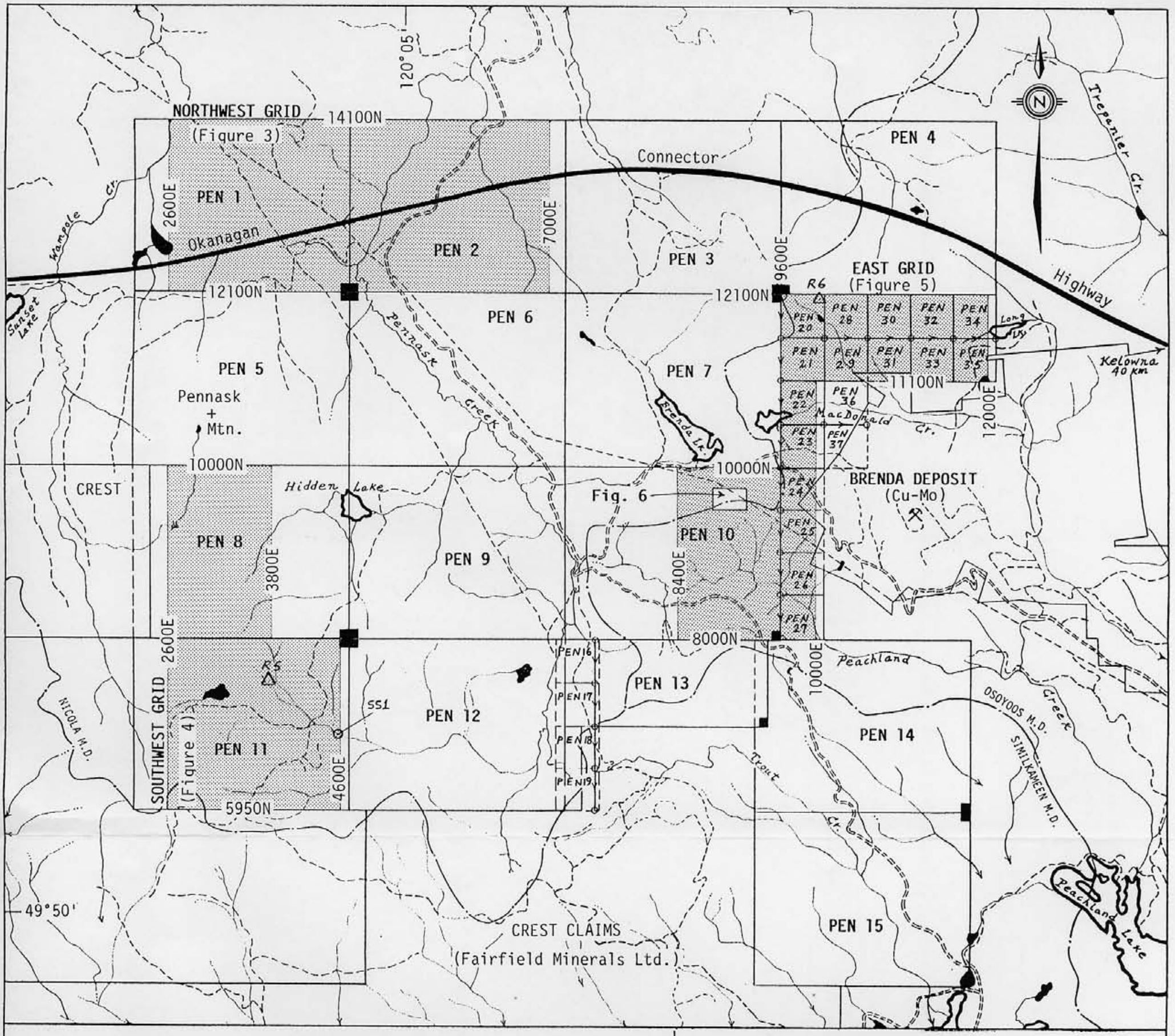
The Pen property is located 42 kilometres west of Kelowna in south-central British Columbia (Figure 1). It is centered on latitude 49°53'N and longitude 120°04'W within NTS map areas 92H/16E and 82E/13W. The Okanagan Connector Highway (97C) extends across the northern claims and a number of gravel logging roads and trails provide good access to most parts of the property.

The claims encompass approximately 77 square kilometres. Elevations range from 1995m at the peak of Pennask Mountain on the western claims to 1300m in the Trout Creek valley on the southeast claim. Slopes are moderately steep with some local, very steep, rocky bluffs and canyons, especially along the headwaters of Peachland Creek. A few small lakes and ponds occupy depressions in the mountainous terrain 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 more 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 1900m elevation. Clear-cut logged plots are located in all parts of the property, totalling about 10 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, Similkameen and Osoyoos Mining Divisions, were staked in August and September, 1990 and October, 1991 and are 100 percent owned by Fairfield Minerals Ltd.


WAVE
WIND
SIWASH NORTH GOLD DEPOSIT
PEN
BRENDA
Cu-Mo DEPOSIT
VIN
SUNSET
CREST
ELK
WH
OKA
DILL
BANK
SWAN
ZU
Siwash Lake
Missezula Lake
Aspen Grove
MERRITT 12 Miles
Bankeir
SUMMERLAND 17 Miles
PRINCETON 12 Miles
PRINCETON 6 Miles
COQUIHALLA HIGHWAY - OKANAGAN CONNECTOR
KELOWNA 2 Miles
Westbank
Peachland
OKANAGAN LAKE
120°30'
120°00'
49°45'
BRITISH COLUMBIA
Prince George
Kamloops
VANCOUVER
CANADA
U.S.A.
MAP AREA
Pacific Ocean
LEGEND
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 — Osprey Lake Batholith-granite, granodiorite
2 Triassic/Jurassic — Pennask Batholith-granodiorite, diorite
1 Triassic — Nicola Group-andesitic volcanics, sediments
Compiled from G.S.C. maps 41-1989, 15-1961
FAIRFIELD MINERALS LTD.
PROPERTY LOCATION AND REGIONAL GEOLOGY MAP
SOUTHERN BRITISH COLUMBIA
OKANAGAN AREA, NTS 82E/92H
0 5 10 15 Kilometres
0 5 10 Miles
CORDILLERAN ENGINEERING LTD.
1980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9
January, 1994
Figure 1



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
- Mining Division Boundary
- Access Road, Trail or Powerline Right-of-Way
- 1993 Soil Geochemistry Coverage
- △R5 ○551 Reconnaissance Rock and Stream Sediment Sample Locations, Numbers (PEN 93 Prefix Omitted)

FAIRFIELD MINERALS LTD.
PEN PROPERTY

CLAIM, GRID AND RECONNAISSANCE SAMPLE LOCATIONS

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

Scale - 1:50,000

1000 0 1000 2000

Scale in Metres

By: Cordilleran Engineering Ltd.
Vancouver, B.C.

January, 1994

Figure 2

Table 1 **CLAIM STATUS AS AT NOVEMBER, 1993**

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

CLAIM	UNITS	TENURE NO.	EXPIRY DATE
PEN 1	20	237577	30 AUG 1994
PEN 2	20	237578	31 AUG 1994
PEN 3	20	237579	1 SEP 1994
PEN 4	20	237580	1 SEP 1994
PEN 5	20	237581	29 AUG 1994
PEN 6	20	237582	31 AUG 1994
PEN 7	20	237583	1 SEP 1994
PEN 8	20	237584	28 AUG 1994
PEN 9	20	237585	29 AUG 1994
PEN 10	20	247305	1 SEP 1994
PEN 11	20	237586	31 AUG 1994
PEN 12	20	237587	31 AUG 1994
PEN 13	8	249890	31 AUG 1994
PEN 14	20	249891	2 SEP 1994
PEN 15	20	249892	2 SEP 1994
PEN 16	2-post	237588	3 SEP 1994
PEN 17	2-post	237589	3 SEP 1994
PEN 18	2-post	237590	3 SEP 1994
PEN 19	2-post	237591	3 SEP 1994
PEN 20	2-post	305864	11 OCT 1996
PEN 21	2-post	305865	11 OCT 1995
PEN 22	2-post	305968	11 OCT 1995
PEN 23	2-post	305899	11 OCT 1995
PEN 24	2-post	305900	11 OCT 1995
PEN 25	2-post	305901	11 OCT 1995
PEN 26	2-post	305902	11 OCT 1995
PEN 27	2-post	305903	11 OCT 1995
PEN 28	2-post	305904	11 OCT 1995
PEN 29	2-post	305905	11 OCT 1995
PEN 30	2-post	305906	11 OCT 1995
PEN 31	2-post	305907	11 OCT 1995
PEN 32	2-post	305908	11 OCT 1995
PEN 33	2-post	305909	11 OCT 1995
PEN 34	2-post	305910	11 OCT 1995
PEN 35	2-post	305911	11 OCT 1995
PEN 36	2-post	305912	11 OCT 1995
PEN 37	2-post	305913	11 OCT 1995
37 Claims	288 Units + 22 2-post claims		

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 were reported from 1966 to 1969 in a number of assessment reports.

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

Prospecting by Fairfield from 1986 to 1990 in the area subsequently staked as the Pen claims revealed gold mineralization in three localities, hosted by quartz veins or sulphide skarn pods. Grab samples returned values up to 0.18 oz/ton gold. Stream sediment samples gave anomalous values for Au, Ag, Cu, Zn, Mo and As.

In 1990 and 1991 grid soil sampling was undertaken over most of the Pen property to test for areas of anomalous gold. Values up to 590 ppb Au were returned. Follow-up soil sampling on 50m by 50m grids was undertaken around some of the numerous anomalous sites.

During 1991 and 1992 prospecting around anomalous soil sites led to discovery of many mineralized quartz vein or stockwork occurrences, from which samples yielded up to 17,200 ppb (0.5 oz/ton) gold and 4 oz/ton silver.

3.4 1993 EXPLORATION PROGRAM

Reconnaissance grid (400m x 50m) soil sampling was carried out in three areas of the property referred to in this report as the Northwest, Southwest and East Grids. This work included 29 person-days and generated a total of 1,114 samples which were analyzed only for gold.

Evaluation of results and follow-up work comprising minor fill-in soil geochemistry and prospecting were conducted, primarily in the East Grid area. This totalled 8 mandays and generated 42 soil, 11 rock and 3 stream sediment samples which were tested for gold plus copper, lead, zinc, silver and bismuth.

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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 andesitic to basaltic 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 property.

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 Formation consists of basaltic to dacitic tuffs, flows and sub-volcanics, commonly containing feldspar phenocrysts. The central unit 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 the upper volcanic Formation on the northwest part of the property, east of Pennask Mountain summit.

Geological observations were made by Fairfield personnel in the area subsequently staked as the Pen property during reconnaissance prospecting and sampling conducted from 1986 through 1992. On 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 rhyolitic(?) dykes up to several metres wide. On the easternmost Pen 4 claim 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 stockworks. 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 the Pen 4 area returned 6220 ppb (0.18 oz/ton) Au.

On the western Pen claims, near the contacts of a small granodiorite stock, small pods of massive sulphide skarn and narrow quartz-arsenopyrite 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.

Within the Pen 13 claim and on an adjoining Crest claim a number of quartz veins and stockworks have been found cutting argillite and siliceous volcanic rocks. The quartz is glassy grey to white or rosy with generally sparse disseminated pyrite and minor fine black grains, possibly tetrahedrite. Veins located to date appear to be irregular and discontinuous. 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. About three kilometres north of this area, on the Pen 10 claim near Brenda Lake, liminitic quartz rubble indicating veins of up to 30 centimetres in width was found during 1993. Samples of this material yielded gold values up to 35,800 ppb (assay - 0.912 oz/ton) and highly anomalous bismuth to 441 ppm.

On the Elk property, 13 km west of the Pen claims, Fairfield has been exploring high grade gold veins from 1986 to present in a similar geological environment. The Siwash North vein system, hosted by intrusive and adjacent volcanic rocks, contains a drill indicated reserve of 135,000 tons averaging 1.59 oz/ton Au over a 2.6 foot true width. Surface and underground bulk sampling programs conducted at Elk in 1992/93 have produced over 20,000 ounces of gold from approximately 6,500 tons of mined ore. Extensive ore sample results have indicated a significant geochemical correlation between gold and bismuth.

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5.0 GEOCHEMISTRY

5.1 SAMPLING PROCEDURE

A total of 1114 soil samples in 1993 were collected from the Pen property on 400m by 50m grid spacings, over three areas named Northwest, Southwest and East Grids. Three sample lines within the East Grid area (8400E, 8800E, 9200E) were established between prior (1991) 400m-spaced lines, resulting in 200m by 50m coverage for part of that area. The 1993 grid areas cover approximately 27 percent of the claim group, largely encompassing volcanic or sedimentary terrane with some intrusive rocks underlying parts of the East and NW Grids. Subsequent follow-up work (anomaly evaluation) in September and October generated additional soil, steam sediment and rock samples which will be applied toward 1994 assessment credits.

East-west claim lines served as baselines. They were measured with hip chain, marked with pink flagging and at 50m stations marked with grid-numbered waterproof Tyvek tags plus pink and blue flagging. North-south soil lines were established at 400 or 200 metre spacings, using hip chain and compass, and the soil stations at 50m intervals were similarly identified with tags plus orange and blue flagging. Detailed follow-up sample locations were determined from original anomalous sample sites and marked in a similar manner. Samples were collected from the "B" horizon with mattocks and placed in Kraft paper bags marked with the appropriate grid coordinates. The samples 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 following aqua regia digestion and MIBK extraction from a 10 gram sample.

5.2 RESULTS (Figures 3-5)

The 1993 gold soil geochemical results are plotted on Figures 3, 4 and 5. Locations of the geochemical grids are keyed on Figure 2. All soil sample analytical certificates are contained in Section 10.0.

Increasing symbol sizes on the geochemical maps correspond to values $\leq$10, 11-20, 21-50, 51-100, >100 ppb Au. Results less than 5 ppb Au are not plotted as these are considered to be background.

Wide-spaced sampling was utilized to complete reconnaissance grid (400m x 50m) coverage of the property, initiated in 1990. This method was employed to most economically cover the remaining areas and to outline any significant gold values which could later be followed up in more detail. The 1993 sampling located only 28 sites with values greater than 20 ppb (considered anomalous) up to a high of 190 ppb Au. This highest value however, was not confirmed by a check analysis (re-analysis of the same sub-sample).

In the NW and SW Grid areas (Figures 3, 4) eleven scattered anomalies in the range of 24-95 ppb Au, together with threshold values of 11-20 ppb Au at some adjacent-line stations, indicate vague northeast to southeast trends possibly reflecting linear gold-bearing structures. However, fill-in sampling is required to verify these trends. Two of the soil anomalies, near the northern boundary of the SW Grid (10000N), define a westerly extension to a previously located zone of gold enrichment (Hidden Lake area, 1991). Mineral occurrences found to date in this area (1986-91) include quartz-arsenopyrite veins and massive sulfide skarn/hornfels pods carrying gold values of up to 3770 ppb (0.11 oz/t Au). Preliminary geological reconnaissance in the NW Grid area has indicated extensive, locally deep till cover.

On the East Grid (Figure 5), the 1993 program generated 17 soil anomalies of 21-190 ppb Au and threshold values of 11-20 Au at 14 other sites. These points further define and extend existing strong, northeast to easterly linear trends which transect a broad north-south belt of gold enrichment outlined during prior years (Ref. Central Grid, 1991). The anomalous gold zone extends onto Fairfield's adjoining Crest property and is situated within a 4 km x 5 km area of highly prospective terrane hosting abundant quartz veins/stockworks carrying significant-grade gold mineralization. Results from numerous occurrences sampled to date include analyses up to 35,800 ppb Au - on the Pen claims, and assays up to 8.534 oz/ton Au - on the Crest claims. Considerable fill-in soil sampling, around approximately 100 sites of >20 ppb Au, and more detailed prospecting remain to be conducted in this priority gold target area which lies peripheral to the Brenda Cu-Mo deposit.

5.3 ANOMALY EVALUATION AND FOLLOW-UP (Table 2 and Figures 2, 6)

Eight mandays during September and October 1993 were spent on follow-up of gold soil anomalies identified by the June sampling program. This work included prospecting, reconnaissance rock and stream sediment sampling and minor fill-in (50m x 50m) soil geochemistry. Totals of 43 soil, 11 rock and 3 stream sediment samples were collected and analyzed for gold by AA plus copper, lead, zinc, silver and bismuth by ICP. Sample locations and some descriptions are given on Figures 2, 6 and Table 2; analytical results are included in Table 2 and Section 10.0. Time and sample distributions for the three grid areas were as follows:

NW Grid	SW Grid	East Grid
1 manday/prospecting	1 manday/prospecting	5 mandays/prospecting
1 soil sample	1 rock, 1 stream	1 manday/soil geochemistry
(profile @ 3000E/13700N)	sediment sample	42 soil, 10 rock and
		2 stream sediment samples

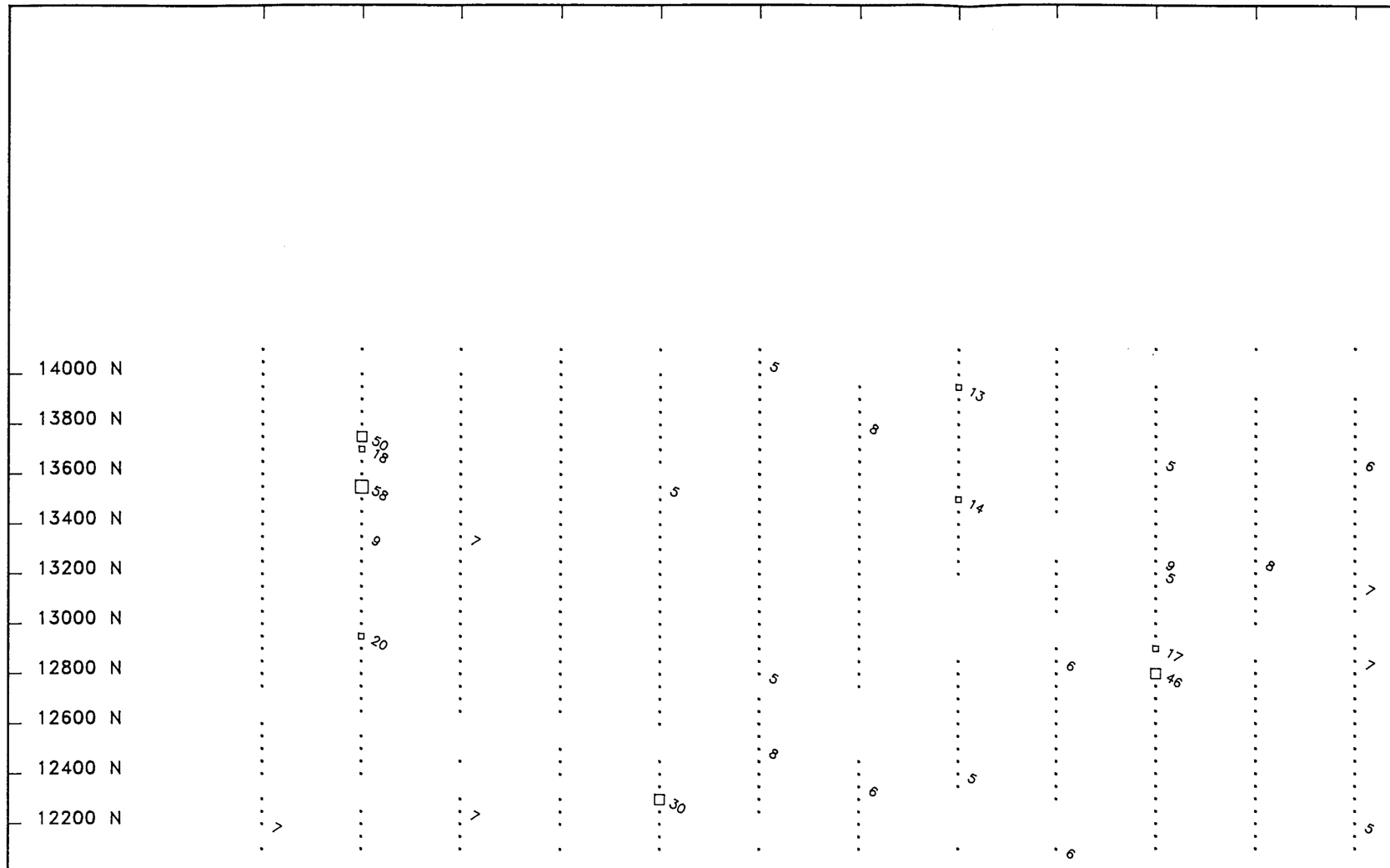
Only a few site evaluations were conducted on the NW and SW Grids, as the majority of gold soil anomalies in these areas are within extensive overburden cover. Brief geological examinations around some of the stronger anomalies on the SW Grid (Lines 3800E, 4600E) located sporadic occurrences of barren quartz in argillite and carbonate terrane. A single sample of such material (PEN 93-R5) returned no significant results. A sediment sample (PEN 93-SS1) taken downstream from the gold soil anomalies yielded anomalous zinc (218 ppm) and silver (0.6 ppm) values, but low gold (3 ppb).

Within the East Grid area, near Brenda Lake, several occurrences of significant gold-bearing limonitic quartz were located in shallow overburden and in altered volcanic bedrock cut by granodiorite dykes. Several large float fragments were found, indicating local veins having appreciable widths of 10 to 30 centimetres. Five of ten rock samples collected from this area returned anomalous gold values of 110 to 35,800 ppb (Assay - 0.912 oz/ton, PEN 93-R1). Two of the samples also yielded very strong bismuth (365 and 441 ppm) and anomalous silver (2.5 and 5.3 ppm). Fill-in soil geochemistry around the main concentration of these occurrences (Figure 6) located five gold anomalies (22-66 ppb Au), the relative positions of which suggest an easterly trending linear gold vein source.

Table 2: **RECONNAISSANCE SAMPLES - PEN PROPERTY**

Sample Number	Approximate Grid Location	Type and Description	Analyses Au	Ag	Cu	Pb	Zn	Bi
PEN93-R1	9625N-9135E	Float grab. 7cm wide, angular qz vn fgmnt w/abund FeO-FeCO3(?) & sparse dissem py.	35800 ppb (Assay - 0.912 oz/t)	5.3 ppm	18 ppm	4 ppm	7 ppm	441 pmm
PEN93-R2	9730N-8950N	Bedrock rubble grabs. Carb-alt'd volcs w/limonitic qz vlts and masses.	73 ppb	0.2 ppm	16 ppm	4 ppm	32 ppm	3 ppm
PEN93-R3	9740N-9010E	Outcrop grab. Limonitic qz lens-up to 10cm wide - in silic, bleached, pyritic tuff(?)	1485 ppb (Average of two runs/original and re-analysis)	1.0 ppm	52 ppm	4 ppm	10 ppm	365 ppm
PEN93-R4	9672.5N -9075E	Float. Chips from 15cm wide, angular qz vn fgmnt w/ abund limonite.	550 ppb	0.8 ppm	64 ppm	<2 ppm	9 ppm	8 ppm
PEN93-R5	7450N-3780E	Talus grab. Isolated, tabular pc of white sugary-textured qz (vn) w/ few rusty cavities.	10 ppb	<0.1 ppm	4 ppm	3 ppm	6 ppm	<2 ppm
PEN93-R6	12030N -10015E	Selected grabs from several pcs qz vn rubble in area of silic, bleached volc outcrop. 3-7cm wide vn(s) w/sparse py, lim, hem.	190 ppb	2.5 ppm	16 ppm	39 ppm	8 ppm	<2 ppm
PEN93-R7	9695N-9040E	Subcrop grab. 8-10cm wide qz lens(?) in alt'd volcs. Dull white to lt gy qz w/ lim, minor fresh py, local yellow-grn discoloration.	8 ppb	<0.1 ppm	21 ppm	2 ppm	4 ppm	<2 ppm
PEN93-R8	9695N-9040E	Subcrop grab, same loc'n as R7. Dk gy silic volc w/rusty fracs & minor dissem py. ~10% qz.	18 ppb	0.1 ppm	49 ppm	<2 ppm	36 ppm	<2 ppm
PEN93-R9	9560N-9195E	Chips from 20x30cm sub-rnded qz float bldr. Vn qz w/rusty streaks & cavities, but no vis sulfides.	110 ppb	0.6 ppm	16 ppm	15 ppm	20 ppm	<2 ppm
PEN93-R10	9570N-9200E	Outcorp grabs, from flat-lying $\leq$8cm thick rusty qz lens and silic volc hostrock.	4 ppb	<0.1 ppm	9 ppm	4 ppm	10 ppm	<2 ppm
PEN93-R11	9655N-9100E	Grab of angular 10x12x20 cm rusty qz vn float fgmnt. Minor vis dissem py.	5025 ppb (Average of two runs/original and re-analysis)	0.1 ppm	14 ppm	<2 ppm	1 ppm	<2 ppm
PEN93-SS1	6935N-4600E	Stream Sed in arg terrane.	3 ppb	0.6 ppm	32 ppm	5 ppm	218 ppm	<2 ppm
PEN93-SS2	9685N-9085E (9683N-9084E)	Stream Sed in volc terrane; Qz vn float along channel.	6 ppb	0.2 ppm	23 ppm	5 ppm	76 ppm	<2 ppm
PEN93-SS3	9660N-9065E (9661N-9067E)	Seds ~30m upstream from SS2.	6 ppb (Average of two runs/original and re-analysis)	0.1 ppm	30 ppm	5 ppm	79 ppm	<2 ppm

Fairfield Minerals Ltd.



N

SYMBOLS

- · LESS THAN OR EQUAL TO 10 PPB
- ▫ GREATER THAN 10 PPB
- □ GREATER THAN 20 PPB
- ▣ GREATER THAN 50 PPB
- ▢ GREATER THAN 100 PPB

Note: Grid area keyed on figure 2.

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1980 – 1055 West Hastings Street Vancouver, British Columbia V6E 2E9

PEN PROPERTY

NW GRID
AU SOIL
GEOCHEMISTRY

SCALE 1 : 20000

Drawn by WJ
January 1994

Figure 3

Fairfield Minerals Ltd.

10000 N
9800 N
9600 N
9400 N
9200 N
9000 N
8800 N
8600 N
8400 N
8200 N
8000 N
7800 N
7600 N
7400 N
7200 N
7000 N
6800 N
6600 N
6400 N
6200 N
6000 N

2600 E
3000 E
3400 E
3800 E
4200 E
4600 E

SYMBOLS

- · LESS THAN OR EQUAL TO 10 PPB
- ▫ GREATER THAN 10 PPB
- □ GREATER THAN 20 PPB
- ▣ GREATER THAN 50 PPB
- ▣ GREATER THAN 100 PPB
- □ GREATER THAN 200 PPB

Note: Grid area keyed on figure 2

E.A. BALON
BRITISH COLUMBIA
GEOSCIENTIST

CORDILLERAN ENGINEERING LTD.
1980 – 1055 West Hastings Street Vancouver, British Columbia V6E 2E9

PEN PROPERTY

SW GRID
AU SOIL
GEOCHEMISTRY

SCALE 1 : 20000

Drawn by WJ
November 1983

Figure 4

Fairfield Minerals Ltd.

12000 N
11800 N
11600 N
11400 N
11200 N
11000 N
10800 N
10600 N
10400 N
10200 N
10000 N
9800 N
9600 N
9400 N
9200 N
9000 N
8800 N
8600 N
8400 N
8200 N
8000 N

8400 E
8800 E
9200 E
9600 E
10000 E
10400 E
10800 E
11200 E
11600 E
12000 E

1993 FILL-IN SEE FIGURE 6

E. A. BALON
BRITISH COLUMBIA
GEOSCIENTIST

SYMBOLS

SAMPLED 1993	SAMPLED 1991	
▪	▲	LESS THAN OR EQUAL TO 10 PPB
□	△	GREATER THAN 10 PPB
□	△	GREATER THAN 20 PPB
□	△	GREATER THAN 50 PPB
□	△	GREATER THAN 100 PPB
□	△	GREATER THAN 200 PPB

Values less than 5 ppb not plotted.

Note: Grid area keyed on Figure 2.

CORDILLERAN ENGINEERING LTD.
1980 – 1055 West Hastings Street Vancouver, British Columbia V6E 2E9

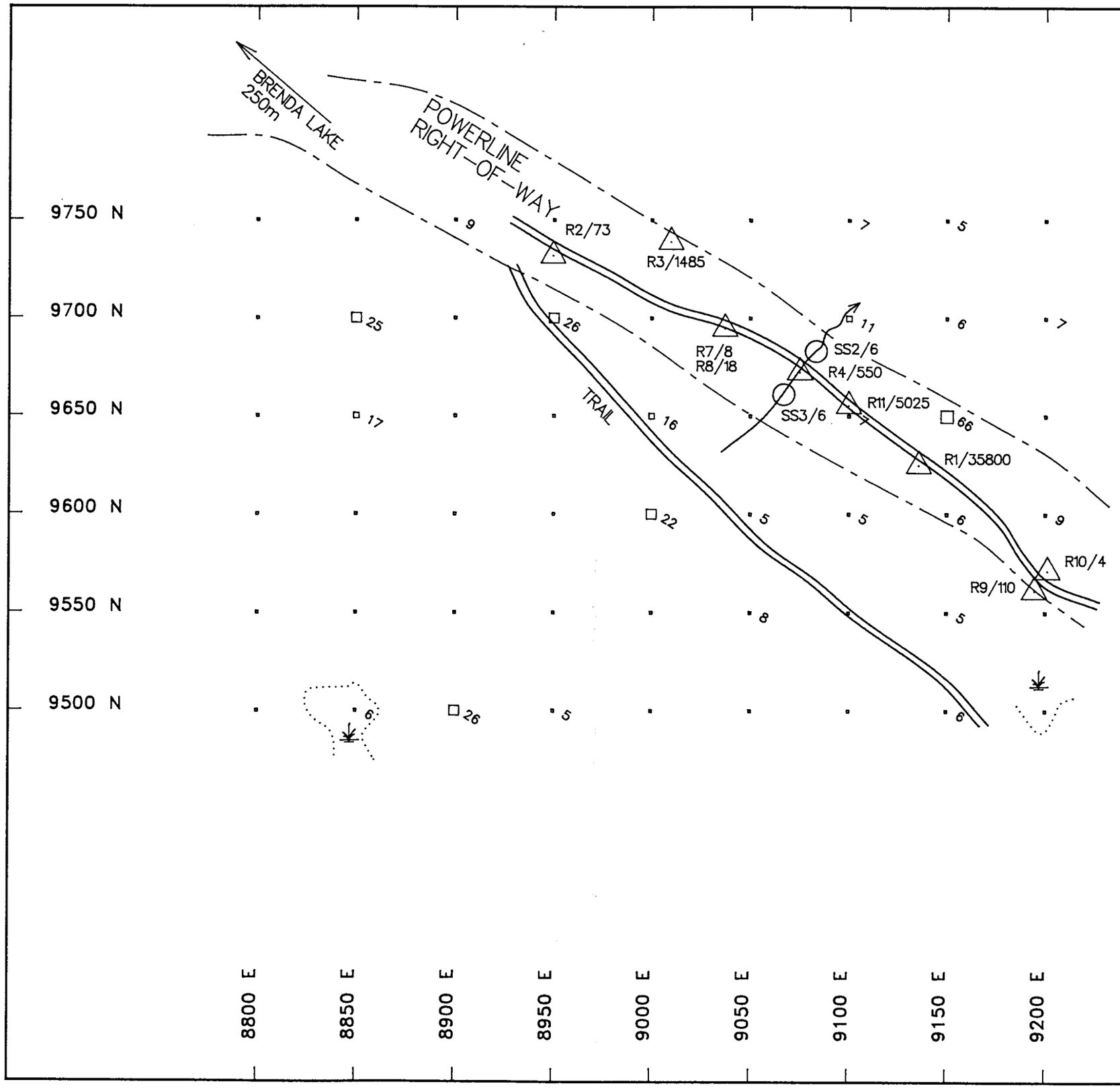
PEN PROPERTY

EAST GRID AU SOIL GEOCHEMISTRY

SCALE 1 : 20000

Drawn by WJ
January 1994

Figure 5



Fairfield Minerals Ltd.

N

E. A. BALON
BRITISH COLUMBIA
GEOSCIENTIST

SYMBOLS

Soil values < 5 ppb not plotted.

- LESS THAN OR EQUAL TO 10 PPB
- GREATER THAN 10 PPB
- GREATER THAN 20 PPB
- GREATER THAN 50 PPB
- STREAM SED SAMPLE NO/AU PPB
- ROCK SAMPLE NO/ AU PPB

(PEN93 prefix omitted from sample numbers)

NOTE: Grid area keyed on figures 2 and 5.

CORDILLERAN ENGINEERING LTD.
1980 – 1055 West Hastings Street Vancouver, British Columbia V6E 2E9

PEN PROPERTY
EAST GRID
BRENDA LAKE AREA
FILL-IN AU GEOCHEMISTRY
SCALE 1 : 2500

Drawn by WJ
November 1993

Figure 6

6.0 PERSONNEL

	Dates Worked	
J. Tindle, Sampler Whistler, B.C.	June 15-28, 1993	14 days soil sampling
Y. Thornton Whistler, B.C.	June 15-28, 1993	14 days soil sampling
J. D. Rowe, Geologist North Vancouver, BC	June 15, 1993	1 day grid layout and sampler orientation
E. A. Balon, Prospector North Vancouver, BC		Evaluation of results and report preparation

****

7.0 STATEMENT OF COSTS

PEN PROPERTY

PROFESSIONAL, TECHNICAL & GEOLOGICAL SERVICES	$2,890
SALARIES & BENEFITS	3,580
GEOCHEMICAL ANALYSIS	5,982
FOOD & ACCOMMODATION	3,050
VEHICLE RENTAL, SHIPPING, and SUPPLIES	1,353
TOTAL EXPENDITURES	**$16,855**

****

8.0 REFERENCES

Balon, E.A.:
1992: 1991 Regional Exploration, southern British Columbia, Okanagan Areas. (Cordilleran Engineering Ltd., unpublished report).

B.C.Ministry of Energy Mines and Petroleum Resources:
Minfile 92H/NE, 82E/NW

Dawson, G.L. and Ray, G.E.:
1988: Geology of the Pennask Mountain Area, 92H/16, B.C. Ministry of Energy, Mines & Petroleum Resources Open File Map 1988-7, Scale 1:25,000

Jakubowski, W.J.:
1992: 1991 Drilling and Trenching (Assessment) Report on the Elk Property.

Monger, J. W. H.:
1989: Geology, Hope, British Columbia, GSC Map 41-1989, scale 1:250,000

Rice, H. M. A.:
1947: Geology and Mineral Deposits of the Princeton Map-Area B.C., GSC Memoir 243

Rowe, J. D. and Balon, E. A.:
1990: 1988 and 1989 Regional Exploration, Southern British Columbia, Okanagan, Princeton and Osoyoos Areas (Cordilleran Engineering Ltd., unpublished report).

1991: 1990 Regional Exploration, Southern British Columbia, Okanagan Area (Cordilleran Engineering Ltd. unpublished report).

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 1:250,000

****

9.0 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 Cordilleran Engineering 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.

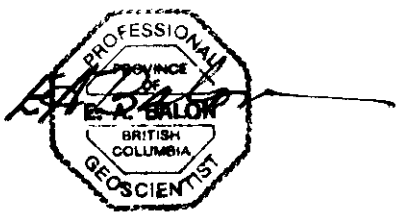
3. I have taken several Continuing Education Courses in Geoscience since 1970, including Exploration Geochemistry at the University of British Columbia, Vancouver B.C. in 1984/85.

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 nearly twenty-four years in British Columbia, Yukon and Northwest Territories.

6. I am the author of this report and I supervised/conducted field evaluation of results from the June 15-28, 1993 soil geochemical program on the PEN claims.

CORDILLERAN ENGINEERING LTD.



E. A. Balon, P.Geo

January 1994
Vancouver, B.C.

****

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GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #4 File # 93-1272 Page 1

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9

SAMPLE#	Au* ppb
2600E 14100N	1
2600E 14050N	1
2600E 14000N	1
2600E 13950N	<1
2600E 13900N	<1
2600E 13850N	<1
2600E 13800N	1
2600E 13750N	1
2600E 13700N	<1
2600E 13650N	<1
2600E 13600N	2
2600E 13550N	1
2600E 13500N	1
2600E 13450N	1
2600E 13400N	2
2600E 13350N	1
2600E 13300N	1
2600E 13250N	1
2600E 13200N	2
2600E 13150N	1
2600E 13100N	2
2600E 13050N	1
2600E 13000N	2
2600E 12950N	1
2600E 12900N	1
2600E 12850N	1
2600E 12800N	2
2600E 12750N	2
2600E 12600N	1
RE 2600E 12600N	2
2600E 12550N	1
2600E 12500N	1
2600E 12450N	2
2600E 12400N	1
2600E 12300N	2
2600E 12250N	2
2600E 12200N	7
STANDARD AU-S	48

- SAMPLE TYPE: SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: JUN 28 1993 **DATE REPORT MAILED:** July 5/93 **SIGNED BY** ..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Au* ppb
2600E 12100N	2
3000E 14100N	4
3000E 14000N	<1
RE 3000E 14000N	<1
3000E 13950N	<1
3000E 13900N	3
3000E 13850N	1
3000E 13800N	<1
3000E 13750N	50
3000E 13700N	18
3000E 13650N	<1
3000E 13600N	3
3000E 13550N	58
3000E 13500N	1
3000E 13450N	1
3000E 13400N	1
3000E 13350N	9
3000E 13300N	1
3000E 13250N	1
3000E 13200N	1
3000E 13150N	1
3000E 13100N	1
3000E 13050N	1
3000E 13000N	1
3000E 12950N	20
3000E 12900N	1
3000E 12850N	1
3000E 12800N	2
3000E 12750N	<1
3000E 12700N	1
3000E 12650N	1
3000E 12550N	2
3000E 12500N	1
3000E 12450N	1
3000E 12400N	3
3000E 12250N	<1
3000E 12200N	2
STANDARD AU-S	50

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3000E 12150N	4
3000E 12100N	2
3400E 14100N	<1
3400E 14000N	1
3400E 13950N	1
3400E 13900N	1
3400E 13850N	1
3400E 13800N	2
3400E 13750N	1
3400E 13700N	1
3400E 13650N	1
3400E 13600N	1
3400E 13550N	1
3400E 13500N	<1
3400E 13450N	1
3400E 13400N	2
3400E 13350N	7
3400E 13300N	1
3400E 13250N	1
3400E 13200N	1
3400E 13150N	3
3400E 13100N	1
3400E 13050N	1
3400E 13000N	1
3400E 12950N	1
3400E 12900N	1
3400E 12850N	1
3400E 12800N	2
3400E 12750N	1
3400E 12700N	1
3400E 12650N	1
RE 3400E 12650N	1
3400E 12450N	3
3400E 12300N	2
3400E 12250N	7
3400E 12200N	2
3400E 12150N	1
STANDARD AU-S	48

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3400E 12100N	2
3800E 14100N	1
3800E 14050N	1
3800E 14000N	2
3800E 13950N	1
3800E 13900N	3
3800E 13850N	1
3800E 13800N	<1
3800E 13750N	1
3800E 13700N	1
3800E 13650N	<1
3800E 13600N	<1
3800E 13550N	<1
RE 3800E 13550N	1
3800E 13500N	1
3800E 13450N	<1
3800E 13400N	1
3800E 13350N	1
3800E 13300N	1
3800E 13250N	2
3800E 13200N	1
3800E 13150N	1
3800E 13100N	<1
3800E 13050N	1
3800E 13000N	1
3800E 12950N	1
3800E 12900N	1
3800E 12850N	1
3800E 12800N	1
3800E 12750N	2
3800E 12700N	2
3800E 12650N	1
3800E 12500N	2
3800E 12450N	1
3800E 12400N	<1
3800E 12300N	2
3800E 12250N	1
STANDARD AU-S	48

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3800E 12200N	1
3800E 12100N	1
4200E 14100N	1
4200E 14000N	<1
4200E 13950N	<1
4200E 13900N	<1
4200E 13850N	<1
4200E 13800N	1
4200E 13750N	1
4200E 13700N	1
4200E 13650N	<1
4200E 13550N	5
4200E 13500N	1
4200E 13450N	1
4200E 13400N	1
4200E 13350N	1
RE 4200E 13350N	<1
4200E 13300N	<1
4200E 13250N	1
4200E 13200N	1
4200E 13150N	1
4200E 13100N	1
4200E 13050N	3
4200E 13000N	<1
4200E 12950N	1
4200E 12900N	1
4200E 12850N	<1
4200E 12800N	2
4200E 12750N	3
4200E 12700N	1
4200E 12650N	1
4200E 12600N	1
4200E 12450N	1
4200E 12400N	1
4200E 12350N	2
4200E 12300N	30
4200E 12250N	2
STANDARD AU-S	47

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
4200E 12200N	1
4200E 12150N	1
4200E 12100N	3
4600E 14100N	2
4600E 14050N	5
4600E 14000N	1
4600E 13950N	1
4600E 13900N	1
4600E 13850N	1
4600E 13800N	1
4600E 13750N	3
4600E 13700N	1
4600E 13650N	2
4600E 13600N	1
4600E 13550N	1
4600E 13500N	1
4600E 13450N	1
4600E 13400N	1
4600E 13350N	1
4600E 13300N	2
4600E 13250N	1
4600E 13200N	1
4600E 13150N	1
4600E 13100N	1
4600E 13050N	1
4600E 13000N	<1
4600E 12950N	3
4600E 12900N	<1
4600E 12850N	1
4600E 12800N	5
4600E 12700N	<1
RE 4600E 12700N	1
4600E 12650N	1
4600E 12600N	<1
4600E 12550N	1
4600E 12500N	8
4600E 12450N	2
STANDARD AU-S	47

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
4600E 12400N	2
4600E 12350N	1
4600E 12300N	1
4600E 12250N	1
4600E 12100N	1
5000E 13950N	1
5000E 13900N	1
5000E 13850N	1
5000E 13800N	8
5000E 13750N	2
5000E 13700N	1
5000E 13650N	1
5000E 13600N	1
5000E 13550N	2
5000E 13500N	<1
5000E 13450N	1
5000E 13400N	<1
5000E 13350N	1
5000E 13300N	2
5000E 13250N	1
5000E 13200N	1
5000E 13150N	1
5000E 13100N	1
5000E 13050N	<1
5000E 13000N	1
5000E 12950N	3
5000E 12900N	1
RE 5000E 12900N	32 *
5000E 12850N	1
5000E 12800N	1
5000E 12750N	1
5000E 12450N	1
5000E 12400N	2
5000E 12350N	6
5000E 12300N	1
5000E 12250N	1
5000E 12200N	1
STANDARD AU-S	51

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

* Subject to reassay check

SAMPLE#	Au* ppb
5000E 12150N	2
5000E 12100N	1
5400E 14100N	1
5400E 14050N	2
5400E 14000N	2
5400E 13950N	13 *
RE 5400E 13950N	1
5400E 13900N	1
5400E 13850N	1
5400E 13800N	1
5400E 13750N	1
5400E 13700N	1
5400E 13650N	1
5400E 13600N	1
5400E 13550N	1
5400E 13500N	14
5400E 13450N	1
5400E 13400N	1
5400E 13350N	1
5400E 13300N	1
5400E 13250N	1
5400E 13200N	1
5400E 12850N	1
5400E 12800N	<1
5400E 12750N	<1
5400E 12700N	1
5400E 12650N	1
5400E 12600N	1
5400E 12550N	1
5400E 12500N	1
5400E 12450N	2
5400E 12400N	5
5400E 12350N	1
5400E 12100N	1
5800E 14100N	<1
5800E 14050N	<1
5800E 14000N	1
STANDARD AU-S	51

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

* Subject to reassay check

SAMPLE#	Au* ppb
5800E 13950N	3
5800E 13900N	2
5800E 13850N	2
5800E 13800N	2
5800E 13750N	2
5800E 13700N	1
5800E 13650N	1
5800E 13600N	3
5800E 13550N	2
5800E 13500N	2
5800E 13450N	1
5800E 13250N	1
5800E 13200N	<1
5800E 13150N	<1
RE 5800E 13150N	<1
5800E 13100N	2
5800E 13050N	<1
5800E 12900N	1
5800E 12850N	6
5800E 12800N	1
5800E 12750N	1
5800E 12700N	3
5800E 12650N	4
5800E 12600N	2
5800E 12550N	2
5800E 12500N	<1
5800E 12450N	1
5800E 12400N	2
5800E 12350N	1
5800E 12300N	4
5800E 12100N	6
6200E 14100N	3
6200E 13950N	<1
6200E 13900N	2
6200E 13850N	<1
6200E 13800N	<1
6200E 13750N	1
STANDARD AU-S	49

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
6200E 13700N	2
6200E 13650N	5
6200E 13600N	2
6200E 13550N	1
6200E 13500N	2
6200E 13450N	2
6200E 13400N	1
6200E 13350N	2
6200E 13300N	1
6200E 13250N	9
6200E 13200N	5
6200E 13150N	1
6200E 13100N	2
6200E 13050N	<1
6200E 13000N	1
6200E 12950N	1
6200E 12900N	17
6200E 12800N	46
6200E 12750N	2
6200E 12700N	1
6200E 12650N	2
6200E 12600N	1
6200E 12550N	2
6200E 12500N	1
6200E 12450N	2
6200E 12400N	4
6200E 12350N	1
6200E 12300N	1
6200E 12250N	1
6200E 12200N	1
RE 6200E 12200N	1
6200E 12150N	1
6200E 12100N	2
6600E 14100N	1
6600E 13900N	1
6600E 13850N	1
6600E 13800N	2
STANDARD AU-S	49

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
6600E 13750N	3
6600E 13700N	1
6600E 13650N	1
6600E 13600N	1
RE 6600E 13600N	1
6600E 13550N	2
6600E 13500N	2
6600E 13450N	2
6600E 13400N	3
6600E 13350N	4
6600E 13300N	1
6600E 13250N	8
6600E 13200N	1
6600E 13150N	3
6600E 13100N	1
6600E 13050N	1
6600E 13000N	1
6600E 12850N	1
6600E 12800N	1
6600E 12750N	2
6600E 12700N	2
6600E 12650N	1
6600E 12600N	2
6600E 12550N	1
6600E 12500N	1
6600E 12450N	1
6600E 12400N	1
6600E 12350N	<1
6600E 12300N	1
6600E 12250N	1
6600E 12200N	1
6600E 12150N	1
6600E 12100N	2
7000E 14100N	1
7000E 13900N	1
7000E 13850N	1
7000E 13800N	<1
STANDARD AU-S	48

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
7000E 13750N	2
7000E 13700N	1
7000E 13650N	6
7000E 13600N	<1
7000E 13550N	1
7000E 13500N	1
7000E 13450N	<1
7000E 13400N	<1
7000E 13350N	<1
7000E 13300N	<1
7000E 13250N	1
7000E 13200N	1
7000E 13150N	7
7000E 13100N	<1
7000E 13050N	1
7000E 12950N	1
7000E 12900N	1
7000E 12850N	7
7000E 12800N	2
7000E 12750N	1
7000E 12700N	1
7000E 12650N	1
7000E 12600N	1
7000E 12550N	1
RE 7000E 12550N	5
7000E 12500N	<1
7000E 12450N	<1
7000E 12400N	<1
7000E 12350N	2
7000E 12300N	4
7000E 12250N	3
7000E 12200N	5
7000E 12150N	1
7000E 12100N	2
STANDARD AU-S	45

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

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GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #5 File # 93-1304 Page 1

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9

SAMPLE#	Au* ppb
12000E 12100N	2
12000E 12050N	8
12000E 12000N	1
12000E 11950N	<1
12000E 11900N	<1
12000E 11850N	2
12000E 11800N	<1
12000E 11750N	<1
12000E 11700N	41
12000E 11650N	5
12000E 11600N	2
12000E 11550N	4
12000E 11500N	7
12000E 11450N	3
12000E 11300N	2
12000E 11250N	1
12000E 11200N	3
12000E 11150N	2
RE 12000E 11150N	2
12000E 11100N	1
11600E 12100N	1
11600E 12050N	1
11600E 12000N	1
11600E 11950N	<1
11600E 11900N	21
11600E 11850N	4
11600E 11800N	2
11600E 11750N	3
11600E 11700N	3
11600E 11650N	14
11600E 11600N	1
11600E 11550N	8
11600E 11500N	7
11600E 11450N	2
11600E 11400N	44
11600E 11350N	9
11600E 11300N	2
STANDARD AU-S	48

- SAMPLE TYPE: SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: JUN 30 1993 DATE REPORT MAILED: July 8/93 SIGNED BY..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Au* ppb
11600E 11250N	6
11600E 11200N	2
11600E 11150N	3
11600E 11100N	3
11200E 12100N	61
11200E 12050N	15
11200E 12000N	3
11200E 11950N	2
11200E 11900N	2
11200E 11850N	3
11200E 11800N	2
11200E 11750N	2
11200E 11700N	2
11200E 11650N	4
11200E 11600N	3
11200E 11550N	2
11200E 11500N	4
11200E 11450N	2
11200E 11400N	13
11200E 11350N	2
11200E 11300N	3
11200E 11250N	3
11200E 11150N	3
11200E 11100N	1
10800E 12050N	2
10800E 12000N	5
10800E 11950N	3
10800E 11900N	2
10800E 11850N	3
10800E 11800N	2
10800E 11750N	2
10800E 11700N	1
10800E 11650N	3
10800E 11600N	190
RE 10800E 11600N	5
10800E 11550N	9
10800E 11500N	3
STANDARD AU-S	45

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
10800E 11450N	4
10800E 11400N	1
10800E 11350N	74
10800E 11300N	4
10800E 11250N	4
10800E 11200N	4
10800E 11150N	3
10800E 11100N	23
10400E 12100N	1
10400E 12050N	4
10400E 12000N	2
10400E 11950N	3
10400E 11900N	3
10400E 11850N	45
10400E 11800N	2
10400E 11750N	3
10400E 11700N	5
10400E 11650N	24
10400E 11600N	3
10400E 11550N	2
10400E 11500N	19
10400E 11450N	2
10400E 11400N	2
10400E 11350N	10
10400E 11300N	57
10400E 11250N	2
10400E 11200N	2
10400E 11150N	2
10400E 11100N	15
10000E 12100N	61
10000E 12050N	6
10000E 12000N	7
RE 10000E 12000N	4
10000E 11950N	4
10000E 11900N	14
10000E 11850N	4
10000E 11800N	1
STANDARD AU-S	48

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
10000E 11750N	3
10000E 11700N	4
10000E 11650N	3
10000E 11600N	2
10000E 11550N	3
10000E 11500N	4
10000E 11450N	1
10000E 11400N	10
10000E 11300N	3
10000E 11250N	3
10000E 11200N	3
10000E 11150N	9
10000E 11100N	3
10000E 11000N	2
10000E 10950N	1
10000E 10900N	3
10000E 10850N	1
10000E 10800N	2
10000E 10750N	37
10000E 10700N	2
10000E 10650N	6
10000E 10600N	2
10000E 10550N	2
10000E 10500N	3
10000E 10450N	3
10000E 10400N	8
10000E 10350N	4
10000E 10300N	3
RE 10000E 10300N	2
10000E 10250N	6
10000E 10200N	6
10000E 10150N	2
10000E 10100N	6
10000E 10050N	2
10000E 10000N	4
10000E 9950N	1
10000E 9900N	10
STANDARD AU-S	46

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
10000E 9850N	5
10000E 9800N	8
10000E 9750N	3
10000E 9700N	14
10000E 9650N	18
10000E 9600N	4
RE 10000E 9600N	6
10000E 9550N	3
10000E 9500N	2
10000E 9450N	3
10000E 9400N	3
10000E 9350N	9
10000E 9300N	2
10000E 9250N	3
10000E 9200N	4
10000E 9150N	3
10000E 9100N	14
10000E 9050N	5
10000E 9000N	4
10000E 8950N	12
10000E 8900N	7
10000E 8850N	6
10000E 8800N	3
10000E 8750N	3
10000E 8700N	4
10000E 8650N	2
10000E 8600N	2
10000E 8550N	5
10000E 8500N	3
10000E 8450N	3
10000E 8400N	4
10000E 8350N	3
10000E 8300N	2
10000E 8250N	7
10000E 8200N	2
10000E 8150N	15
10000E 8100N	6
STANDARD AU-S	51

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
10000E 8050N	2
10000E 8000N	1
9200E 10000N	7
9200E 9950N	<1
9200E 9800N	6
9200E 9750N	<1
9200E 9700N	7
9200E 9650N	4
9200E 9600N	9
9200E 9550N	2
9200E 9500N	2
9200E 9450N	2
9200E 9400N	3
9200E 9350N	1
9200E 9300N	4
9200E 9250N	3
9200E 9200N	<1
9200E 9150N	2
9200E 9100N	2
9200E 9050N	2
9200E 9000N	1
9200E 8950N	2
9200E 8900N	73
9200E 8850N	3
9200E 8800N	2
9200E 8750N	61
9200E 8700N	3
RE 9200E 8700N	2
9200E 8650N	2
9200E 8600N	2
9200E 8550N	3
9200E 8500N	1
9200E 8450N	3
9200E 8400N	9
9200E 8350N	5
9200E 8300N	3
9200E 8250N	1
STANDARD AU-S	48

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
9200E 8200N	3
9200E 8150N	5
9200E 8100N	2
9200E 8050N	2
9200E 8000N	2
8800E 10000N	1
8800E 9900N	4
8800E 9850N	1
8800E 9800N	4
8800E 9750N	3
8800E 9700N	2
8800E 9650N	1
8800E 9600N	1
8800E 9550N	1
8800E 9500N	1
8800E 9450N	2
RE 8800E 9450N	2
8800E 9400N	5
8800E 9350N	2
8800E 9300N	3
8800E 9250N	1
8800E 9200N	3
8800E 9150N	9
8800E 9100N	4
8800E 9050N	2
8800E 9000N	1
8800E 8950N	4
8800E 8900N	4
8800E 8850N	3
8800E 8800N	7
8800E 8750N	3
8800E 8700N	2
8800E 8650N	5
8800E 8600N	1
8800E 8550N	1
8800E 8500N	3
8800E 8450N	1
STANDARD AU-S	51

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
8800E 8400N	8
8800E 8350N	3
8800E 8300N	1
8800E 8250N	6
8800E 8200N	2
8800E 8150N	3
8800E 8100N	1
8800E 8050N	1
8400E 10000N	4
8400E 9950N	<1
8400E 9900N	2
8400E 9850N	1
8400E 9800N	1
8400E 9750N	1
8400E 9700N	1
8400E 9650N	1
8400E 9600N	3
8400E 9550N	1
8400E 9500N	1
8400E 9450N	2
8400E 9400N	1
8400E 9350N	2
8400E 9300N	2
8400E 9250N	5
8400E 9200N	4
8400E 9150N	4
RE 8400E 9150N	14
8400E 9100N	3
8400E 9050N	9
8400E 9000N	1
8400E 8950N	49
8400E 8900N	4
8400E 8850N	13
8400E 8800N	9
8400E 8750N	14
8400E 8700N	10
8400E 8650N	9
STANDARD AU-S	49

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
8400E 8600N	2
8400E 8550N	2
8400E 8500N	5
RE 8400E 8500N	2
8400E 8450N	37
8400E 8400N	15
8400E 8350N	5
8400E 8300N	4
8400E 8250N	40
8400E 8200N	4
8400E 8150N	1
8400E 8100N	3
8400E 8000N	4
4600E 8000N	2
4600E 7950N	1
4600E 7900N	1
4600E 7850N	5
4600E 7800N	1
4600E 7750N	2
4600E 7700N	1
4600E 7650N	2
4600E 7600N	3
4600E 7550N	13
4600E 7500N	3
4600E 7450N	2
4600E 7400N	2
4600E 7350N	2
4600E 7300N	2
4600E 7250N	1
4600E 7200N	4
4600E 7150N	3
4600E 7100N	1
4600E 7050N	1
4600E 7000N	2
4600E 6950N	95
4600E 6900N	1
4600E 6850N	1
STANDARD AU-S	47

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
4600E 6800N	4
4600E 6750N	3
4600E 6700N	4
4600E 6650N	2
4600E 6600N	29
4600E 6550N	2
4600E 6500N	2
4600E 6450N	3
4600E 6400N	1
4600E 6350N	2
4600E 6300N	2
4600E 6250N	3
4600E 6200N	3
4600E 5950N	2
4200E 7950N	4
RE 4200E 7950N	1
4200E 7900N	2
4200E 7850N	1
4200E 7800N	2
4200E 7750N	3
4200E 7700N	3
4200E 7650N	2
4200E 7600N	3
4200E 7550N	2
4200E 7500N	2
4200E 7450N	2
4200E 7400N	3
4200E 7350N	1
4200E 7300N	2
4200E 7250N	2
4200E 7200N	2
4200E 7150N	2
4200E 7100N	1
4200E 7050N	24
4200E 7000N	2
4200E 6950N	2
4200E 6900N	1
STANDARD AU-S	47

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
4200E 6850N	3
4200E 6800N	2
4200E 6750N	1
4200E 6700N	1
4200E 6650N	<1
4200E 6600N	1
4200E 6550N	1
4200E 6500N	1
4200E 6450N	1
4200E 6400N	1
4200E 6350N	6
4200E 6300N	8
4200E 6250N	3
RE 4200E 6250N	3
4200E 6200N	4
4200E 5950N	2
3800E 9950N	29
3800E 9900N	2
3800E 9850N	2
3800E 9800N	2
3800E 9750N	2
3800E 9700N	2
3800E 9650N	2
3800E 9600N	3
3800E 9550N	1
3800E 9500N	2
3800E 9450N	1
3800E 9400N	1
3800E 9350N	5
3800E 9300N	1
3800E 9250N	2
3800E 9200N	3
3800E 9150N	2
3800E 9100N	5
3800E 9050N	2
3800E 9000N	3
3800E 8950N	2
STANDARD AU-S	52

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3800E 8900N	2
3800E 8850N	1
3800E 8800N	<1
3800E 8750N	1
3800E 8700N	<1
3800E 8650N	7
3800E 8600N	1
3800E 8550N	1
3800E 8500N	<1
3800E 8450N	2
3800E 8400N	1
3800E 8350N	2
3800E 8300N	4
3800E 8250N	1
3800E 8200N	6
3800E 8150N	2
3800E 8100N	1
3800E 8050N	2
3800E 8000N	3
3800E 7750N	1
3800E 7700N	1
3800E 7650N	1
RE 3800E 7650N	3
3800E 7600N	1
3800E 7550N	1
3800E 7500N	1
3800E 7450N	2
3800E 7400N	50
3800E 7350N	2
3800E 7300N	2
3800E 7250N	1
3800E 7200N	3
3800E 7150N	1
3800E 7100N	1
3800E 7050N	1
3800E 7000N	1
3800E 6950N	1
STANDARD AU-S	52

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3800E 6900N	3
3800E 6850N	1
3800E 6800N	1
3800E 6750N	1
3800E 6700N	1
3800E 6650N	1
3800E 6600N	4
3800E 6550N	2
3800E 6500N	2
3800E 6450N	1
3800E 6400N	1
3800E 6350N	5
3800E 6300N	<1
3800E 6250N	1
RE 3800E 6250N	7
3800E 6200N	3
3800E 6150N	6
3800E 6100N	<1
3800E 6050N	1
3800E 6000N	1
3800E 5950N	1
3400E 10000N	2
3400E 9950N	2
3400E 9900N	45
3400E 9850N	6
3400E 9800N	2
3400E 9750N	1
3400E 9700N	2
3400E 9650N	3
3400E 9600N	3
3400E 9550N	2
3400E 9500N	8
3400E 9450N	2
3400E 9400N	1
3400E 9350N	1
3400E 9300N	1
3400E 9250N	1
STANDARD AU-S	47

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3400E 9200N	2
3400E 9150N	1
RE 3400E 9150N	1
3400E 9100N	1
3400E 9050N	1
3400E 9000N	1
3400E 8950N	1
3400E 8900N	1
3400E 8850N	1
3400E 8800N	1
3400E 8750N	2
3400E 8700N	1
3400E 8650N	5
3400E 8600N	1
3400E 8550N	2
3400E 8500N	1
3400E 8450N	1
3400E 8400N	2
3400E 8350N	1
3400E 8300N	<1
3400E 8250N	2
3400E 8200N	5
3400E 8150N	2
3400E 8100N	1
3400E 8050N	3
3400E 8000N	1
3400E 7800N	2
3400E 7750N	2
3400E 7700N	2
3400E 7650N	1
3400E 7600N	1
3400E 7550N	1
3400E 7500N	1
3400E 7450N	3
3400E 7400N	2
3400E 7350N	2
3400E 7300N	1
STANDARD AU-S	52

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3400E 7250N	2
3400E 7200N	2
3400E 7150N	1
3400E 7100N	1
3400E 7050N	4
3400E 7000N	<1
3400E 6950N	2
3400E 6900N	1
3400E 6850N	2
3400E 6800N	4
3400E 6750N	1
3400E 6700N	1
3400E 6650N	1
3400E 6600N	4
3400E 6550N	1
3400E 6500N	2
3400E 6450N	2
3400E 6400N	2
3400E 6350N	3
3400E 6300N	1
3400E 6250N	2
3400E 6200N	<1
3400E 6150N	1
3400E 6100N	<1
3400E 6050N	<1
3400E 6000N	1
3000E 9950N	5
3000E 9900N	3
3000E 9850N	5
RE 3000E 9850N	7
3000E 9800N	2
3000E 9750N	10
3000E 9700N	1
3000E 9650N	1
3000E 9600N	3
3000E 9550N	1
3000E 9500N	<1
STANDARD AU-S	50

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3000E 9450N	4
3000E 9400N	1
3000E 9350N	1
3000E 9300N	1
3000E 9250N	1
3000E 9200N	1
3000E 9150N	4
3000E 9100N	<1
3000E 9050N	1
3000E 9000N	<1
3000E 8950N	2
3000E 8900N	2
3000E 8850N	1
3000E 8800N	1
3000E 8750N	1
3000E 8700N	<1
3000E 8650N	1
3000E 8550N	1
3000E 8500N	1
3000E 8450N	1
3000E 8400N	1
3000E 8350N	2
3000E 8300N	3
3000E 8250N	2
RE 3000E 8250N	1
3000E 8200N	1
3000E 8150N	8
3000E 8100N	2
3000E 8000N	5
3000E 7950N	2
3000E 7900N	5
3000E 7850N	3
3000E 7800N	1
3000E 7750N	2
3000E 7700N	1
3000E 7650N	2
3000E 7600N	1
STANDARD AU-S	53

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
3000E 7550N	2
3000E 7500N	2
3000E 7450N	1
3000E 7400N	1
3000E 7350N	1
3000E 7300N	2
3000E 7250N	3
3000E 7200N	2
3000E 7150N	1
3000E 7100N	3
3000E 7050N	6
3000E 7000N	2
3000E 6950N	1
3000E 6900N	2
3000E 6850N	1
3000E 6800N	3
3000E 6750N	2
3000E 6700N	1
3000E 6650N	2
3000E 6600N	1
3000E 6550N	2
3000E 6500N	3
3000E 6450N	2
3000E 6400N	4
3000E 6350N	1
3000E 6300N	1
3000E 6250N	2
3000E 6200N	1
RE 3000E 6200N	3
3000E 6150N	1
3000E 6100N	1
3000E 5950N	1
2600E 10000N	1
2600E 9950N	1
2600E 9900N	3
2600E 9850N	1
2600E 9800N	1
STANDARD AU-S	52

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
2600E 9750N	4
2600E 9700N	1
2600E 9650N	2
2600E 9600N	1
2600E 9550N	1
2600E 9500N	2
2600E 9450N	2
2600E 9400N	11
2600E 9350N	2
2600E 9300N	2
2600E 9250N	1
2600E 9200N	1
2600E 9150N	1
2600E 9100N	3
2600E 9050N	1
2600E 9000N	1
2600E 8950N	1
2600E 8900N	5
2600E 8850N	2
2600E 8800N	2
2600E 8750N	3
RE 2600E 8750N	2
2600E 8700N	3
2600E 8650N	1
2600E 8600N	3
2600E 8550N	1
2600E 8500N	7
2600E 8450N	2
2600E 8400N	2
2600E 8350N	2
2600E 8300N	8
2600E 8250N	2
2600E 8200N	2
2600E 8150N	2
2600E 8100N	3
2600E 8050N	2
2600E 8000N	2
STANDARD AU-S	52

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Au* ppb
2600E 7950N	3
2600E 7900N	2
2600E 7850N	1
2600E 7800N	1
2600E 7750N	3
2600E 7700N	2
2600E 7650N	2
2600E 7600N	1
2600E 7550N	1
2600E 7500N	1
2600E 7450N	2
2600E 7400N	2
RE 2600E 7400N	1
2600E 7350N	1
2600E 7300N	1
2600E 7250N	1
2600E 7100N	2
2600E 7050N	7
2600E 7000N	8
2600E 6950N	2
2600E 6900N	9
2600E 6850N	3
2600E 6800N	3
2600E 6750N	2
2600E 6700N	3
2600E 6650N	1
2600E 6600N	1
2600E 6550N	1
2600E 6500N	4
2600E 6450N	3
2600E 6400N	3
2600E 6350N	3
2600E 6300N	3
2600E 6250N	3
2600E 6150N	3
2600E 6100N	3
2600E 6050N	3
2600E 5950N	3
STANDARD AU-S	48

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

CME [illegible] LA[illegible]ATOR[illegible] LTD. [illegible] E. [illegible]ING[illegible] [illegible]. V[illegible] [illegible]OUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(6[illegible])253-1716

GEOCHEMICAL ANA[illegible]SIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #3 File # 93-2429 Page 1

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

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Bi ppm	Au* ppb
PEN93-R1	18	4	7	5.3	441	35800
PEN93-R2	16	4	32	.2	3	73
PEN93-R3	52	4	9	1.0	362	1580
RE PEN93-R3	53	4	10	1.0	368	1390
PEN93-R4	64	<2	9	.8	8	550
PEN93-R5	4	3	6	<.1	<2	10
PEN93-R6	16	39	8	2.5	<2	190
STANDARD C/AU-R	57	37	122	6.7	21	470

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: P1 ROCK P2 STREAM SED. P3 SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 20 GM SAMPLE.
Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 13 1993 **DATE REPORT MAILED:** Sept 24/93 **SIGNED BY.** D. Toye ..D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Bi ppm	Au* ppb
PEN93-SS1	32	5	218	.6	<2	3

Sample type: STREAM SED..

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Bi ppm	Au* ppb
PEN 3000E 13700N	16	5	45	.2	<2	1

Sample type: SOIL.

CME LAB ORATORY LTD. E. ING ST. VANCOUVER, B.C. CANADA V5L 1L2 PHONE(604)253-3158 FAX(604)253-1716

ASSAY CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #3 File # 93-2429R

SAMPLE#	Au** oz/t
PEN93-R1	.912

AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
- SAMPLE TYPE: ROCK PULP

DATE RECEIVED: OCT 7 1993 **DATE REPORT MAILED:** Oct 14/93 **SIGNED BY** C. Leong D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #4 File # 93-2770 Page 1

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

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Bi ppm	Au* ppb
PEN93-R7	21	2	4	<.1	<2	8
PEN93-R8	49	<2	36	.1	<2	18
PEN93-R9	16	15	20	.6	<2	110
PEN93-R10	9	4	10	<.1	<2	4
PEN93-R11	14	<2	1	.2	<2	5020
RE PEN93-R11	14	<2	1	<.1	<2	5030
STANDARD C/AU-R	64	38	122	6.9	17	460

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: P1 ROCK P2 TO P3 SOIL P4 STREAM SED AU* ANALYSIS BY ACID LEACH/AA FROM 20 GM SAMPLE.
Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: OCT 5 1993 **DATE REPORT MAILED:** Oct 8/93 **SIGNED BY**.....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Bi ppm	Au* ppb
P L8850E 9750N	20	9	53	.1	2	4
P L8850E 9700N	25	8	62	.2	<2	25
P L8850E 9650N	21	11	55	<.1	<2	17
P L8850E 9600N	19	9	58	.1	<2	2
P L8850E 9550N	16	7	45	<.1	<2	1
P L8850E 9500N	26	3	34	.1	<2	6
P L8900E 9750N	35	9	117	.2	<2	9
P L8900E 9700N	21	7	67	<.1	<2	2
P L8900E 9650N	21	7	44	.1	2	1
P L8900E 9600N	21	10	53	<.1	2	2
P L8900E 9550N	18	10	52	<.1	3	2
P L8900E 9500N	23	11	61	.2	<2	26
P L8950E 9750N	32	7	148	.1	<2	4
P L8950E 9700N	21	8	92	.2	<2	26
P L8950E 9650N	26	9	100	.1	2	3
P L8950E 9600N	20	6	70	.1	<2	3
P L8950E 9550N	20	7	69	.2	<2	2
P L8950E 9500N	17	9	53	.1	2	5
P L9000E 9750N	20	8	88	.1	<2	3
P L9000E 9700N	25	4	63	.3	<2	3
P L9000E 9650N	23	5	87	.1	<2	16
P L9000E 9600N	39	6	120	.4	<2	22
P L9000E 9550N	26	5	73	<.1	2	2
P L9000E 9500N	23	6	55	.3	<2	3
P L9050E 9750N	16	3	59	.2	<2	3
P L9050E 9700N	27	5	101	.2	<2	1
P L9050E 9650N	23	6	76	.1	<2	2
P L9050E 9600N	23	6	64	.3	2	5
P L9050E 9550N	16	4	58	.1	<2	8
P L9050E 9500N	15	4	49	<.1	<2	2
RE P L9050E 9500N	14	7	50	<.1	<2	2
P L9100E 9750N	32	5	71	.4	2	7
P L9100E 9700N	34	7	95	.1	<2	11
P L9100E 9650N	30	8	72	.3	<2	7
P L9100E 9600N	24	5	60	.2	<2	5
STANDARD C/AU-S	60	37	128	6.6	18	52

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Bi ppm	Au* ppb
P L9100E 9550N	13	5	43	.2	<2	3
P L9100E 9500N	17	8	46	.1	<2	3
P L9150E 9750N	20	6	41	.2	<2	5
P L9150E 9700N	17	6	53	.2	<2	5
RE P L9150E 9700N	18	8	53	.2	<2	6
P L9150E 9650N	18	7	64	.3	<2	66
P L9150E 9600N	18	5	62	.3	<2	6
P L9150E 9550N	16	9	41	.1	<2	5
P L9150E 9500N	18	10	36	.1	<2	6
STANDARD C/AU-S	56	37	128	6.8	18	51

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Bi ppm	Au* ppb
PEN93-SS2	23	5	76	.2	<2	6
PEN93-SS3	29	7	79	.1	<2	6
RE PEN93-SS3	31	3	79	.1	<2	5

Sample type: STREAM SED.. Samples beginning 'RE' are duplicate samples.