ARIS SUMMARY SHEET

District Geologist, Kamloops Off Confidential: 92.08.21

ASSESSMENT REPORT 22304 MINING DIVISION: Nicola

PROPERTY: Pen
LOCATION: LAT 49 53 00 LONG 120 04 00
UTM 10 5529567 710723
NTS 092H16E
CLAIM(S): Pen 1-19
OPERATOR(S): Fairfield Min.
AUTHOR(S): Rowe, J.
REPORT YEAR: 1992, 128 Pages
COMMODITIES
SEARCHED FOR: Gold
KEYWORDS: Triassic,Nicola Group,Andesites,Basalts,Tuffs,Argillites
Conglomerates,Limestones,Quartz veins,Stockworks,Pods,Pyrite
Pyrrhotite,Chalcopyrite,Molybdenite,Galena,Sphalerite

WORK
DONE: Geochemical
SOIL 3287 sample(s) ;AU
Map(s) - 1; Scale(s) - 1:20 000

LOG NO: MAY 2 1 1992 RD
ACTION:
FILE NO:

1991

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

APRIL 1992. (BC '91 ASSESSMENT)

REPORT DISTRIBUTION

- Mining Recorder	2	
- Fairfield Minerals Ltd.	1	
- Field	1	
- Cordilleran Engineering Ltd.	1	(Original)
Total:	5	

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,304

1991 GEOCHEMICAL 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

J. D. Rowe, B.Sc.
Geologist

CORDILLERAN ENGINEERING LTD.
1980-1055 W. Hastings St.
Vancouver, B.C. V6E 2E9

Date Submitted: April, 1992
Field Period: Oct 1, 1990 to Oct 6, 1991

TABLE OF CONTENTS

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. targeted 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 exploring a high-grade vein system containing a drill indicated reserves of 339,000 tons averaging 0.647 oz/ton Au.

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 0.2 oz/ton. Observed quartz veins are generally narrow, drusy, with sparse pyrite or limonite and occasional pyrrhotite, arsenopyrite, galena or chalcopyrite.

The 1991 program consisted of wide-spaced grid soil sampling of 2549 samples, with an additional 401 soils collected in late 1990 covering approximately 75 percent of the property area. Follow-up sampling around some of the strong gold anomalies added another 337 samples for a total to date of 3287 soils.

Four large areas (1 to 2.5 km long) of gold enrichment were defined by soil geochemistry. All contain many values greater than 50 ppb Au up to a high of 590 ppb. Gold-bearing quartz veins have been discovered in three of the anomalous areas. Vague northeast trending gold highs are evident, which may represent narrow gold bearing structures. Fill-in sampling is required to verify and define these trends.

Prospecting was conducted around some of the anomalous soil sites and a total of 35 rock samples were collected, predominantly from quartz vein outcrops or float. Several of these samples returned significant gold values, up to 5950 ppb (0.17 oz/ton). On the adjacent Crest property, 600 metres south of the Pen claims, a quartz float sample returned 8.534 oz/ton Au.

Preliminary evaluation of geochemical targets on the Pen property has indicated a wide distribution of gold bearing vein occurrences. Potential for discovery of an economic gold reserve is good. Further work is definitely warranted.

****

2.0 RECOMMENDATIONS

Wide-spaced (400m x 50m) soil sampling should be continued to test the remainder of the property for gold. A total of 1000 samples is estimated.

Fill-in sampling (50m by 50m) should be completed around many of the stations with values greater than 20 ppb gold to better define potential anomalous trends. A total of 1500 samples is estimated.

Prospecting of gold anomalies should be continued and samples collected from any altered or mineralized rocks.

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

Areas with mineral showings or strongly anomalous gold geochemistry, coincident geophysical signatures and an overburden depth less than four metres should be trenched to bedrock with an excavator. Trenches should be cleaned, mapped and chip sampled.

Respectfully submitted

CORDILLERAN ENGINEERING LTD.

J. D. Rowe, B.Sc.,
Geologist

JDR/z
April, 1992

****

3.0 INTRODUCTION

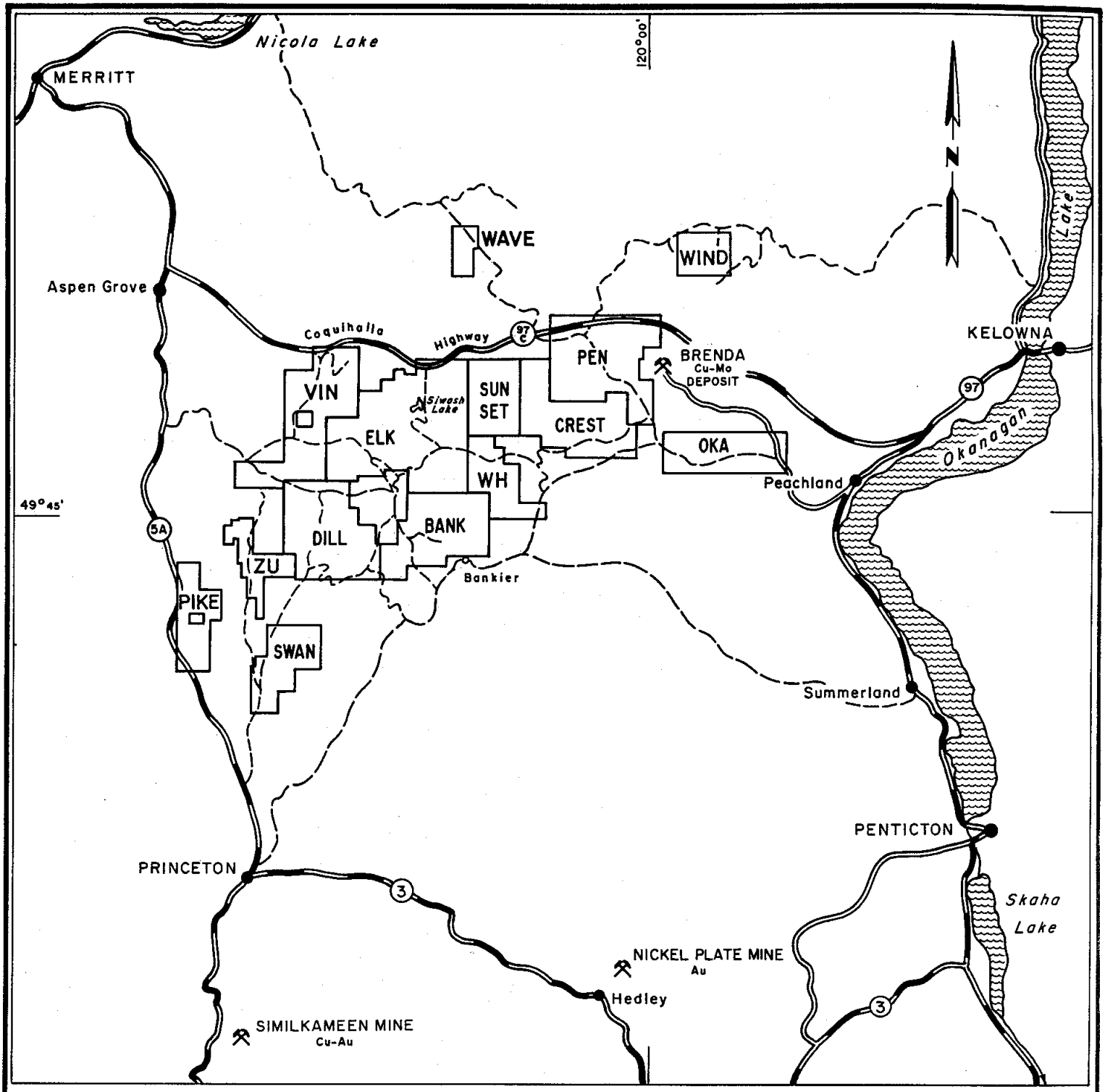
3.1 LOCATION AND PHYSIOGRAPHY (Figures 1 and 2)

The Pen property is located 42 kilometres west of Kelowna in south-central British Columbia (Figure 1). It is centred 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 on Pennask Mountain. Fairly recent, clear-cut logged plots are located in all parts of the property, totalling about 10 percent of the area. On the northern claims selective logging conducted over 20 years ago has resulted in new growth areas containing dense, brushy vegetation. 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.



MAP AREA

FAIRFIELD MINERALS LTD.

PROPERTY LOCATION MAP

SOUTHERN BRITISH COLUMBIA

OKANAGAN AREA, NTS 82E/92H

0 10 20 30 Kilometres

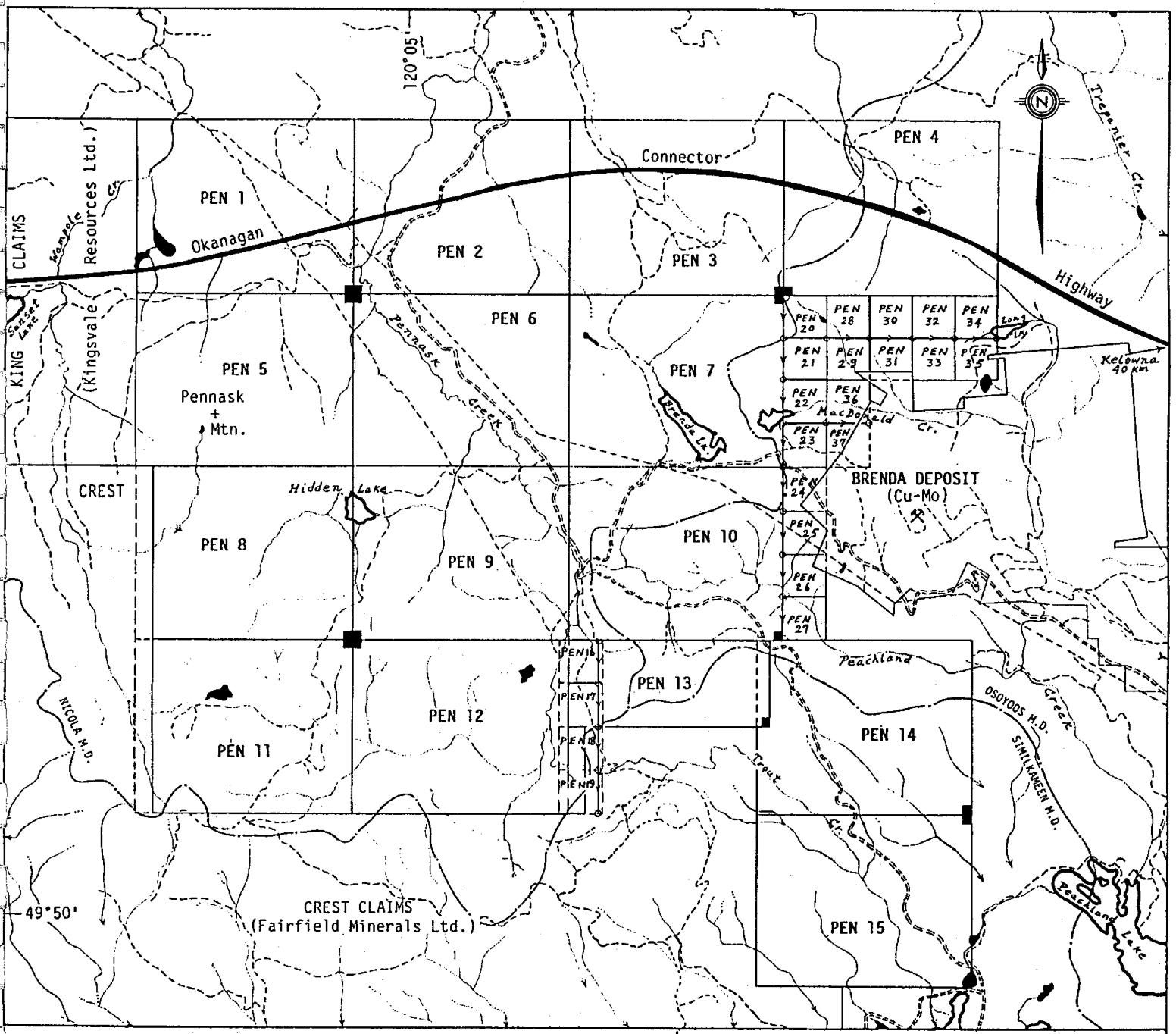
0 10 20 Miles

SCALE 1:500,000

CORDILLERAN ENGINEERING LTD.
1980-1055 W. HASTINGS STREET
VANCOUVER, B.C. V6E 2E9

NOVEMBER 1991

FIGURE 1



LEGEND

- ■ Legal Corner Post for 4-Post Mineral Claim(s)
- o→o 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

FAIRFIELD MINERALS LTD.
PEN PROPERTY

CLAIM LOCATION MAP

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

1000 0 1000 2000
Scale in Metres

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

March, 1992

Figure 2

Table 1 **CLAIM STATUS AS AT DECEMBER, 1991**

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

CLAIM	UNITS	RECORD NO.	EXPIRY DATE
PEN 1	20	237577	30 AUG 1992
PEN 2	20	237578	31 AUG 1992
PEN 3	20	237579	1 SEP 1992
PEN 4	20	237580	1 SEP 1993
PEN 5	20	237581	29 AUG 1992
PEN 6	20	237582	31 AUG 1993
PEN 7	20	237583	1 SEP 1992
PEN 8	20	237584	28 AUG 1992
PEN 9	20	237585	29 AUG 1993
PEN 10	20	247305	1 SEP 1993
PEN 11	20	237586	31 AUG 1992
PEN 12	20	237587	31 AUG 1993
PEN 13	8	249890	31 AUG 1993
PEN 14	20	249891	2 SEP 1992
PEN 15	20	249892	2 SEP 1992
PEN 16	2-post	237588	3 SEP 1992
PEN 17	2-post	237589	3 SEP 1992
PEN 18	2-post	237590	3 SEP 1992
PEN 19	2-post	237591	3 SEP 1992
PEN 20	2-post	305864	11 OCT 1992
PEN 21	2-post	305865	11 OCT 1992
PEN 22	2-post	305968	11 OCT 1992
PEN 23	2-post	305899	11 OCT 1992
PEN 24	2-post	305900	11 OCT 1992
PEN 25	2-post	305901	11 OCT 1992
PEN 26	2-post	305902	11 OCT 1992
PEN 27	2-post	305903	11 OCT 1992
PEN 28	2-post	305904	11 OCT 1992
PEN 29	2-post	305905	11 OCT 1992
PEN 30	2-post	305906	11 OCT 1992
PEN 31	2-post	305907	11 OCT 1992
PEN 32	2-post	305908	11 OCT 1992
PEN 33	2-post	305909	11 OCT 1992
PEN 34	2-post	305910	11 OCT 1992
PEN 35	2-post	305911	11 OCT 1992
PEN 36	2-post	305912	11 OCT 1992
PEN 37	2-post	305913	11 OCT 1992
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. Although not recorded in public records, several bulldozer trenches, which appear to be more than 15 years old, were found on the northeast claims, both north and south of the highway. Most of these trenches are sloughed and overgrown showing very little bedrock exposure. At least one possible drill hole collar was identified near trenches north of the highway.

The Brenda copper-molybdenum deposit, one kilometre east of the Pen claim boundary, was mined by open pit from 1970 through 1990. It contained a reserve 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 October, 1990 following claim acquisition, grid soil sampling was undertaken on a portion of the southeast Pen property extension to test for the continuation of gold anomalies defined on the adjoining Crest property. Several anomalous values, up to 590 ppb Au, were returned.

3.4 1991 EXPLORATION PROGRAM

The 1991 program consisted of wide-spaced grid soil sampling to cover most of the property, with the exception of the northwest and southwest corners. The grid encompassed all, or parts of, Pen 3-10 and 12-19 claims. Follow-up soil sampling (50m x 50m) was undertaken around a few of the numerous sites which returned anomalous gold values.

A total of 87 mandays were expended between July 2 and October 6, 1991 to establish grid lines and collect 2886 soil samples. As well, 10 mandays were spent prospecting and evaluating some of the areas of anomalous gold geochemistry. Thirty-five rock samples were collected from float or bedrock near these sites.

****

4.0 GEOLOGY

4.1 REGIONAL GEOLOGY (Figure 3)

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 3.

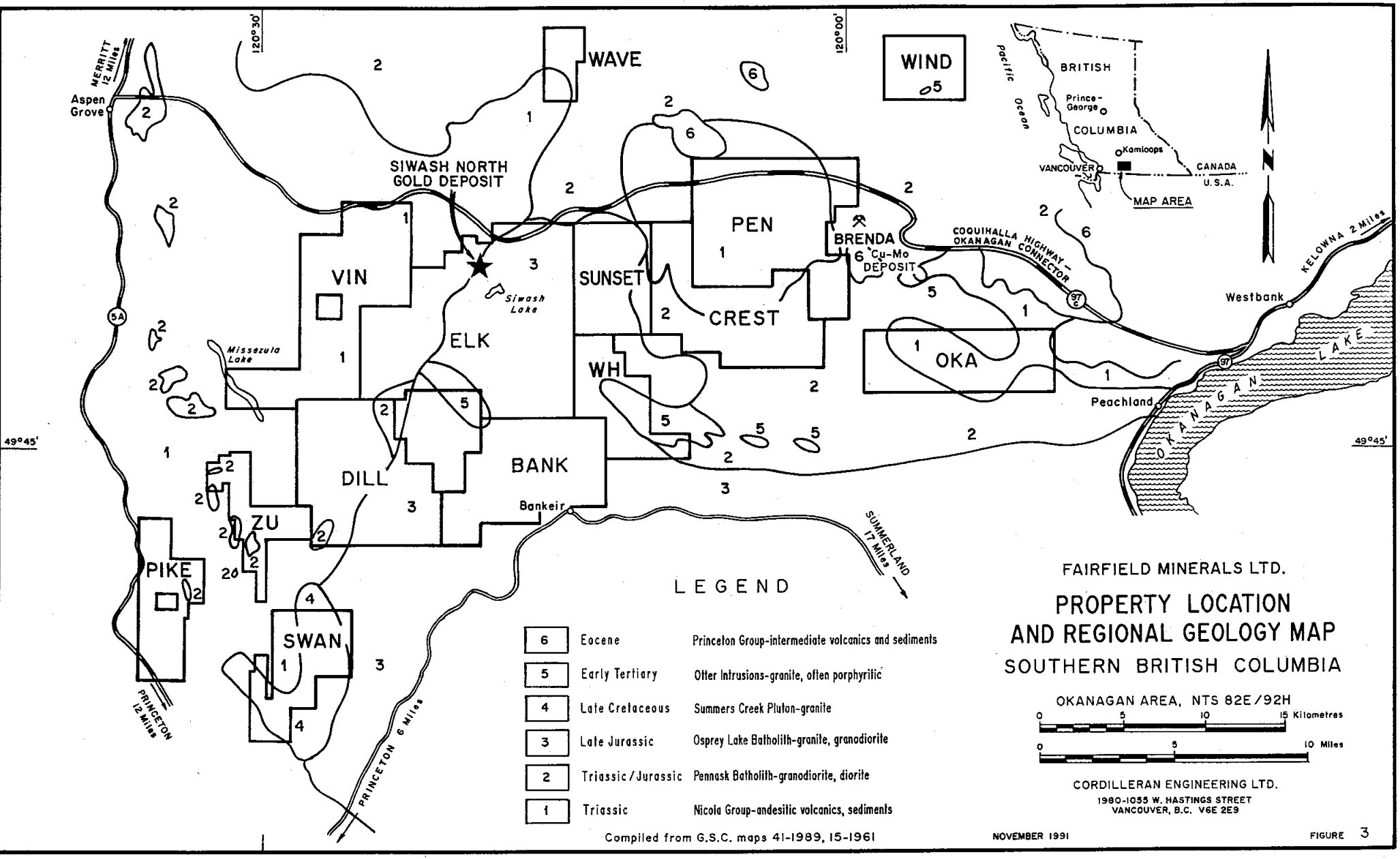
The claims are underlain predominantly by a large pendant consisting of volcanic and sedimentary rocks of the Upper Triassic Nicola Group. The northeast and southeast extensions of the property are underlain by granodiorite of the Late Triassic to Early Jurassic Pennask batholith.

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 of argillite and volcanic rocks was noted near intrusive contacts.

Quartz veining is locally abundant, generally concentrated near the edge of 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 includes 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 Pen 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.


120°30'
120°00'
49°45'
MERRITT 12 Miles
Aspen Grove
WAVE
WIND
SIWASH NORTH GOLD DEPOSIT
PEN
BRENDA Cu-Mo DEPOSIT
COQUIHALLA HIGHWAY - OKANAGAN CONNECTOR
VIN
SUNSET
CREST
ELK
Siwash Lake
Missezula Lake
WH
OKA
BANK
DILL
ZU
PIKE
SWAN
Bankeir
SUMMERLAND 17 Miles
PRINCETON 12 Miles
PRINCETON 6 Miles
Pacific Ocean
BRITISH COLUMBIA
Prince George
Kamloops
VANCOUVER
CANADA
U.S.A.
MAP AREA
Westbank
KELOWNA 2 Miles
Peachland
OKANAGAN LAKE
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
NOVEMBER 1991
FIGURE 3

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 1991. 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 instances, quartz-sulphides veins or stockworks. Sulphide mineralization is mainly pyrite with lesser pyrrhotite, chalcopyrite, molybdenite and sparse occurrences of galena, sphalerite, arsenopyrite and tetrahedrite with some 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.

In the area of 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 contained 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 extends southwesterly past Hidden Lake.

In the central property area at the headwaters of Peachland Creek, narrow quartz veins cut black argillite outcrop. Grabs 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.

Along the south side of the Pen 13 claim and on the adjoining Crest property a number of quartz veins have been found cutting argillite and siliceous volcanic rocks. The quartz is glassy grey to white with local sparse disseminated pyrite and minor fine black grains, possibly tetrahedrite. Veins are irregular and discontinuous. Grab samples have returned gold values up to 4280 ppb (0.12 oz/ton). A similar sample of pyritic quartz chips from overburden 600 metres to the south, on the Crest property, returned a reported value of 8.534 oz/ton Au, 35.72 oz/ton Ag.

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 339,000 tons averaging 0.647 oz/ton Au over 6.6 foot true width.

****

5.0 GEOCHEMISTRY

5.1 SAMPLING PROCEDURE

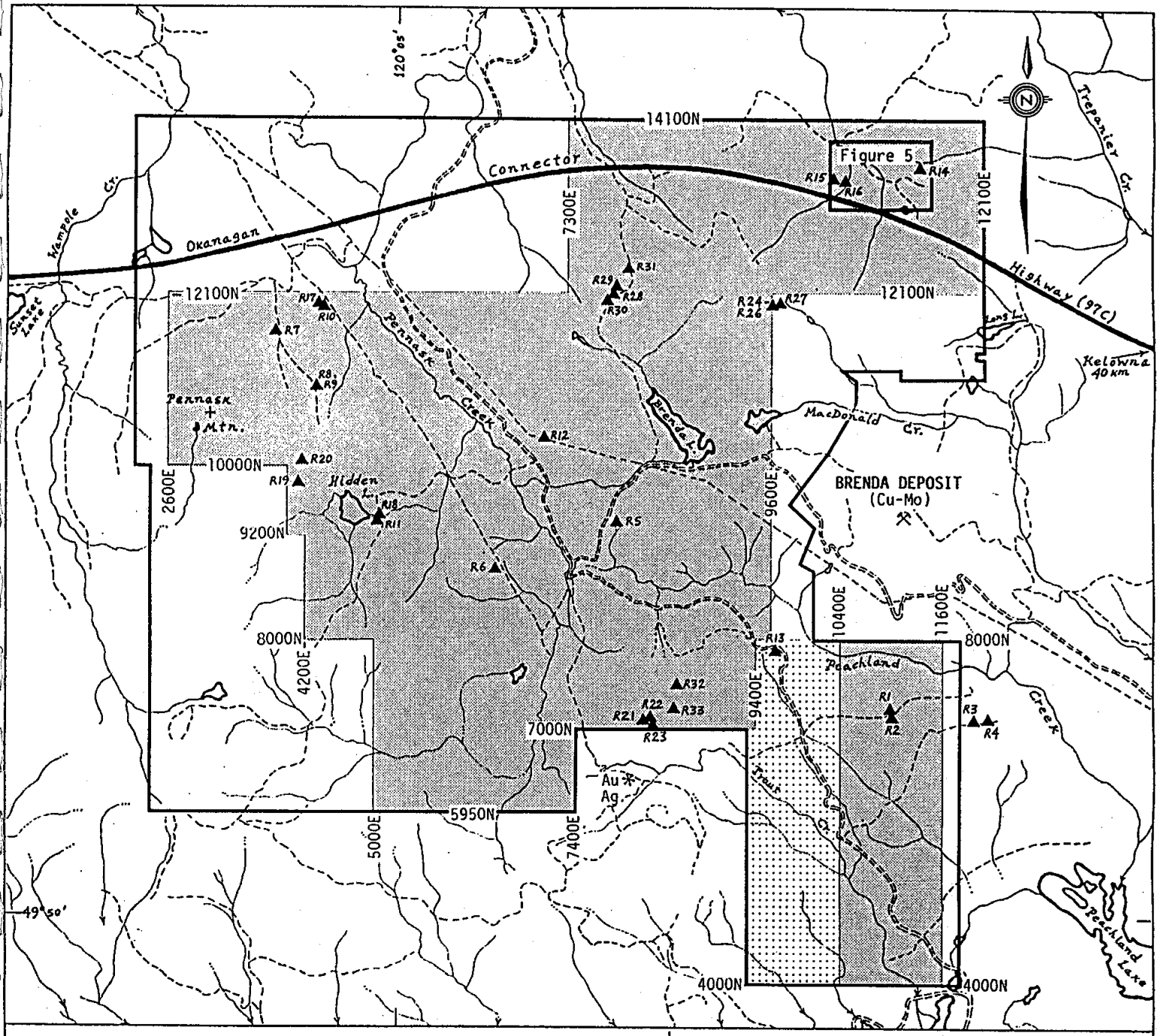
A total of 401 soil samples in 1990 and 2549 in 1991 were collected from the Pen property on predominantly 400m by 50m grid spacings with some selected 200m spaced lines. This grid covers approximately 75 percent of the property area, largely encompassing volcanic or sedimentary terrane, with some intrusive host rocks on the eastern part. Detailed follow-up soil sampling (50m x 50m)was conducted around some of the sites with anomalous gold values, providing another 337 samples for a total to date of 3287 soils. For assessment purposes 2143 samples were collected, and applied for work credits, prior to August 28, 1991 and 1144 soils were collected between August 29 and October 6, 1991.

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 (Plate 1, Figure 4 and 5)

The 1990 and 1991 gold soil geochemical results are plotted on Plate 1 and Figure 5. Locations of the geochemical grids are keyed on Figure 4. 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.



LEGEND

- 1991 Soil Geochemical Survey
- 1990 Soil Geochemical Survey
- -2600E Grid Line Number
- R22 ▲ Reconnaissance Rock Sample Site and Number (Prefix PEN91 - omitted)
- * Gold-Silver Mineral Occurrence
- Access Road, Trail or Powerline Right-of-Way
- Fig.5 ——> Area of Detailed Soil Geochemistry

FAIRFIELD MINERALS LTD.
PEN PROPERTY

GRID AND RECONNAISSANCE SAMPLE LOCATIONS

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

1000 0 1000 2000
Scale in Metres

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

March, 1992

Figure 4

13600 N

13400 N

13200 N

13000 N

12800 N

10500 E

10900 E

11300 E

N

SYMBOLS

- · LESS THAN AND EQUAL TO 10 PPB
- ▫ GREATER THAN 10 PPB
- □ GREATER THAN 20 PPB
- □ GREATER THAN 50 PPB
- □ GREATER THAN 100 PPB

(VALUES LESS THAN 5 PPB NOT PLOTTED)

REFER TO FIGURE 4 & PLATE I FOR GRID LOCATION.

FAIRFIELD MINERALS LTD.

PEN PROPERTY

Au FILL-IN SOIL GEOCHEM.

NICOLA MINING DIVISION
NTS 92H 16E

1: 10000

Cordilleran Engineering Ltd.
1980–1055 West Hastings St.
Vancouver, B.C.
V6E 2E9

MARCH 1992

Figure 5

Wide-spaced grid coverage was used for the initial sampling to most economically cover a large portion of the property and, hopefully, indicate areas of significant gold values which would be followed up in more detail. This initial sampling returned a very large number of values greater than 20 ppb, which is considered weakly anomalous, and many values greater than 50 ppb, up to a high of 590 ppb. Only a few of the strongest anomalies were followed up with fill-in sampling in 1991.

Four large areas of gold enrichment ranging from 1 to 2.5 km in length have been defined. On the western grid between 4200E and 5200E one of these zones coincides roughly with the eastern contact of a granodiorite stock intruding volcanic and sedimentary units. Mineralization found during reconnaissance in that area included narrow quartz-arsenopyrite veins and massive pyrite-pyrrhotite-arsenopyrite skarn pods which have returned some gold values, up to 3770 ppb. Only one anomalous site has had fill-in sampling; more is required to better define gold targets.

On the northern grid between 10500E and 11300E at about 13000N (Figure 5) fill-in sampling has confirmed and defined areas of anomalous gold. Prospecting in this area identified pyritic quartz stringers cutting intrusive and sedimentary rocks, with some gold values up to 950 ppb. Old bulldozer trenches contain sheared, carbonate altered granodiorite and local cleared, levelled sites may have been used as drill sites many years ago.

In the central grid, gold enrichment occurs in a northerly trending belt between 7800E and 9200E, from 7000N to 9800N. Fill-in sampling has yet to be conducted. Within this area a number of irregular quartz veins up to 30cm wide have been noted, cutting argillite and volcanic rocks. Grab samples have returned values up to 4280 ppb Au. Northeast trending gold geochemical highs are evident crossing the wide-spaced lines. These may correspond to linear gold bearing structures, however, fill-in sampling is required to verify these trends.

On the southeastern grid a large north to northwest trending zone of gold anomalies is roughly aligned with the previously described area. Again, northeast trending highs are vaguely evident across 200 metre spaced lines and may represent narrow gold veins. Preliminary prospecting in this area indicated that outcrop exposure is limited. Fill-in soil sampling is required.

Glacial direction in this region is southerly and based on experience gained from other nearby properties, geochemical dispersion ranges from a few metres to 200 metres south from a gold source, depending on topographic slope and depth of overburden. One main criteria for rating geochemical targets is the number of anomalous stations (>20 ppb) clustered along a north-south line at 50 metre spacings. Most of the significant gold occurrences in the area have associated geochemical signatures dispersed southerly over 3 to 5 stations (100 to 200 metres) from the mineralized structure. On the Pen soil grid there are at least 5 areas with similar anomalous clusters. Fill-in sampling will help confirm and better define some of these targets.

5.3 ANOMALY EVALUATION AND RECONNAISSANCE SAMPLING (Figure 4, Table 2)

Ten mandays in August, 1991 were spent prospecting areas of anomalous gold soil geochemistry, quartz vein showings and new logging access roads. A two man crew of geologist and prospector conducted the work. Prospecting involved detailed examination of bedrock exposures and rock fragments in overburden near anomalous soil sites and close inspection of rock cuts along road banks and ditches.

A total of 35 rock samples were collected. Most were selected chips from outcrop or float and a few were continuous chip samples. These were predominately comprised of quartz vein material but included a few altered hostrock samples with sulphide disseminations or veinlets. Sample locations are shown on Figure 4 with descriptions and analytical results given in Table 2.

The rock samples had an average weight of 1 to 2 kilograms with chips ranging from 1 to 7 cm in diameter. They were 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. Four of the samples were fire assayed for gold using 1 assay ton (29 gm) cuts. The others were analyzed for gold using 20 gm of pulp digested with aqua regia, extracted by MIBK and measured by Atomic Absorption. The silver was measured by I.C.P. using a 0.5 gm cut.

Most of the vein samples come from areas underlain by andesitic volcanics or argillite near contacts with granodiorite batholith. Host rocks are generally siliceous, locally skarnified and often contain disseminated pyrite or pyrrhotite. Narrow feldspar porphyry dykes were noted cutting argillite. Quartz veins range from a few cm to 30cm wide, are white to glassy grey and locally contain drusy, limonitic boxwork or sparse disseminated pyrite with some pyrrhotite, arsenopyrite, hematite and minor chalcopyrite. They commonly strike easterly but may be discontinuous.

Several of the reconnaissance rock samples returned significant gold values, up to 5950 ppb (0.17 oz/ton) [Pen 91-R30]. These were quartz vein samples with disseminated pyrite or limonite and, in several cases, arsenopyrite. Prospecting has revealed that a number of quartz veins are present in areas of anomalous gold geochemistry on the Pen property. Sulphide minerals, with local associated gold, are sporadically distributed in the veins. Gold assays of small samples may be subject to considerable nugget effect. The gold appears to have strong coincidence with arsenopyrite, therefore, base metal analyses of rock samples may help define veins with high gold potential. Additional prospecting and sampling to explore for high grade gold-bearing veins is definitely warranted.

****

Table 2: RECONNAISSANCE ROCK SAMPLES
PEN PROPERTY

Sample Number	Approximate Grid Location	Type and Description	Assays/Analyses Au	Ag
PEN91-R1	7200N-11005E	Subcrop grab/qz-carb vn(s) w/dissem alt'd volcs.	480 ppb	1.0 ppm
-R1A	7202N-11002E	2.0m cont chip across silic, carb-alt'd volcs incl two narrow shears w/ yel-grn clay alt'n.	12 "	0.2 "
-R1B	7205N-11003E	2.5m cont chip @ 025 deg, contiguous from N. end R1A. Strongly frac/sheared volcs cut by 15cm grdr dike.	62 "	0.3 "
-R2	7185N-11008E	Talus grabs/silic, carb and propyl-alt'd volcs + grdr w/ dissem py and pyritic qz-carb vns.	71 "	0.4 "
-R3	7050N-12140E (off property)	Outcrop grab/coarse gnt-chlor-ep skn w/ dissem py, minor cpy.	30 "	0.2 "
-R4	7085N-12285E (off property)	Subcrop grabs/bleached, silic (hnflsed) volcs +/or seds cut by glassy qz vlts w/ minor dissem py.	94 "	0.3 "
-R5	9000N-7788E	Selected chips from qz vn float fgmnts up to 10cm wide. Limonitic, locally vuggy qz w/ arg partings.	17 "	0.1 "
-R6	8595N-6500E	Float grab/hnfls w/glassy qz vlts, masses and fine dissem py, pyh, asp(?).	49 "	1.2 "
-R7	1157N-3900E	Chips from single qz vn float fgmnt, 7.5 x 20cm. White, opaque, drusy qz w/ sparse py, lim.	34 "	3.0 "
-R8	10910N-4325E	Selected subcrop grabs/ser,chlor-alt'd grdr w/ clots and stringers of asp, sp, py.	1600 "	5.0 "
-R9	10900N-4330E	Selected grabs/angular qz vn float fgmts up to 4cm wide. Sparse to abund (20%) dissem asp.	3770 "	3.2 "
-R10	11845N-4425E	Chips from single, angular qz vn float fgmt 10 x 15cm. White, opaque, coarse xtln w/ lim fracs, cavities.	1310 "	0.1 "
-R11	9275N-5140E	Float/cm wide fgmnts qz vn(s) w/ abund fine dissem py + asp.	1690 "	1.9 "
-R12	10350N-7002E	Subcrop grab/1cm glassy qz vn w/ minor dissem lim, cutting silic arg.	14.5 " (average of 2 runs)	0.1 "
-R13	7740N-9565E	Subcrop grab/silic volc-grdr contact rock w/glassy, pyritic qz stringers up to 0.5cm wide.	53 "	0.7 "
-R14	13195-215N-11300E	Outcrop + talus chips/glassy, drusy qz vlts 0.5-3.0 cm wide w/ intergr chlor, local dissem py + cpy.	45 "	4.6 "
-R15	13020N-10430E	Float grabs/rounded qz vn fgmnts up to 5x8 cm. White, opaque w/ lim fracs, drusy cavities.	950 "	1.6 "
-R16	13000N-10555E	Single 10cm float fgmnt of dk gy arg cut by stockwork qz vlts 1-5 mm, drusy w/ lim cavities.	13 "	1.1 "

Table 2: RECONNAISSANCE ROCK SAMPLES PEN PROPERTY Continued

Sample Number	Approximate Grid Location	Type and Description	Assays/Analyses Au	Ag
PEN91-R17	11830N-4390E	Selected chips from several sites along 40m float train of qz vn fgmnts to 4cm wide. Coarse xtln, white, opaque, local lim in cavities.	400 ppb	0.1 ppm
-R18	9285N-5145E	Single, subrounded qz vn float fgmnt, 4.5 x 6cm glassy, silvery gy partings, tr py, abund lim + MnO.	1 "	0.1 "
-R19	9790-800N-4190-200E	Selected outcrop & talus grabs/hnflsed arg sltstn + interc calc-sil, qz-gnt bands w/ dissem pyh, asp, cpy, sp(?).	7.5 " (average of 2 runs)	1.0 "
-R20	10500N-4200E	Outcrop, talus grabs/ white to glassy qz vn, up to 6cm wide, w/sparse blebs weath py.	5"	0.1 "
-R21	7055-60N-8190-200E	Outcrop, talus grabs/locally bleached, hematitic, silic volcs w/ dissem + frac fill py.	0.004 oz/t	1.6 "
-R22	7070N-8265E	Selected outcrop chips/same rock type as R21, but w/ stronger dissem py + rosy qz vlts carrying py, blk metallics.	0.080 " (average of 2 runs)	6.2 "
-R23	7050N-8290E	Outcrop, talus grabs/bright red-orange weath, strongly bleached, hematitic, silic volcs w/ dissem py.	0.001 "	1.0 "
-R24	11975N-9725E	Outcrop grab/E'erly trending 30cm qz vn, pyritic, white, opaque to locally glassy.	0.001 "	1.1 "
-R25	11975N-9724E	0.35m cont chip across same vn (R24) + 2-3cm silic, pyritized volc wallrock from both FW, HW.	52 ppb	2.6 "
-R26	11975N-9728E	0.22m cont chip across same vn (R24,25) 4m along strike to E. Coarse py + strong lim boxworks on selvages.	260 ppb	3.9 ppm
R27	11950N-9760E	Selected outcrop grabs from same vn (R24-26) 30-35m along strike to E. Mod coarse py + abund lim cavities.	150 " (average of 2 runs)	0.6 "
-R28	11950-90N-7970-90E	Grabs from numerous qz vn float fgmnts along both sides of rd. Predom opaque white to semi-glassy, sparse py + lim.	4 "	0.1 "
-R29	11988N-7975E	Float grab- W. edge of rd./pyritic arg, w/ stockwork of limonitic, glassy qz vlts.	2 "	0.1 "
-R30	11910N-7970E	Single, angular, 10 x 15cm pyritic qz vn float fgmnt. W. rd ditch.	5950 "	15.1 "
-R31	12250-85N-7855-65E	Qz vn float grabs, both sides of rd/ largest fgmnt 10.5 x 20cm. Intergr clay-carb, lim + MnO.	10 "	0.6 "
-R32	7500N-8580E	Outcrop grab/8 cm wide qz vn in silic volcs. White to rusty-orange, locally glassy, minor py + lim.	4280 "	38.1 "
-R33	7220N-8560E	Outcrop grab/irreg qz vn up to 10 cm wide, in locally bx qz mtx volcs. White to glassy qz w/ lim vugs, boxworks.	1060 "	3.0 "

6.0 PERSONNEL

		Number of Days Worked
M. Steiner, Sampler	Coquitlam, BC	3 days (1990) 31 days (1991)
S. Crawford, Sampler	North Vancouver, BC	3 days (1990)
J. Tindle, Sampler	Whistler, BC	3 days (1990) 11 days (1991)
J. Cormier, Geologist	Vancouver, BC	3 days (1990) 11 days (1991)
R. Champoux, Sampler	Vancouver, BC	20 days (1991)
R. Harwood, Sampler	Nelson, BC	8 days (1991)
E. A. Balon, Prospector	North Vancouver, BC	6 days (1991)
J. D. Rowe, Geologist	North Vancouver, BC	10 days (1991)

****

7.0 STATEMENT OF COSTS

PEN PROPERTY

		OCT/90-AUG 31/91		SEPT 1/91-FEB 29/92
PROFESSIONAL, TECHNICAL & GEOLOGICAL SERVICES		$15,960		$12,770
SALARIES & BENEFITS		8,560		3,638
GEOCHEMICAL ANALYSIS	(2143 soils)	10,705	(1144 soils)	6,702
FOOD AND ACCOMMODATION		1,800		900
RENTALS: TRUCK, RADIOPHONE, COMPUTER		1,950		1,580
FIELD EQUIPMENT & SUPPLIES		710		597
FREIGHT, OFFICE SUPPLIES, TELEPHONE		865		193
TOTAL EXPENDITURES:		**$40,550**		**$26,380**

JR

****

8.0 REFERENCES

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

Cormier, J.R.:
1991: 1990 Geochemical (Assessment) Report on the Crest 1-43 Mineral Claims

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.:
1991: 1990 Drilling, Trenching, Geochemical and Geophysical (Assessment) Report on the Elk Property.

1991: Personal Communication.

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).

Tempelman-Kluit, D.J.:
1989: Geology, Penticton, British Columbia, GSC Map 1736A, Scale 1:250,000

****

9.0 STATEMENT OF QUALIFICATIONS

I, Jeffrey D. Rowe, of North Vancouver, British Columbia hereby certify that:

1. I am a geologist residing at 2596 Carnation Street, and employed by Cordilleran Engineering Ltd. of 1980 - 1055 West Hastings Street, Vancouver, British Columbia V6E 2E9.

2. I have received a B.Sc. degree in Honours Geology from the University of British Columbia, Vancouver B.C. in 1975.

3. I have practiced my profession for eighteen years in British Columbia, Yukon and Quebec.

4. I am the author of this report and supervisor of the field work conducted on the Pen claims during the period Oct. 1, 1990 to Oct. 6, 1991.

CORDILLERAN ENGINEERING LTD.

J. D. Rowe, B.Sc.
Geologist

JDR/z
April, 1992
Vancouver, B.C.

****

10.0 ANALYTICAL RESULTS

1990 & 1991 Soil Samples

1991 Rock Samples

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

DATE RECEIVED: OCT 17 1990

DATE REPORT MAILED: Oct. 24/90

OCT 23. 90

GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #1 FILE # 90-5360 Page 1

1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Attn: JOHN CORMIER

SAMPLE#	AU* ppb
9600E 8000N	2
9600E 7975N	4
9600E 7950N	3
9600E 7900N	14
9600E 7850N	6
9600E 7800N	18
9600E 7750N	5
9600E 7700N	5
9600E 7650N	480
9600E 7600N	8
9600E 7550N	4
9600E 7500N	10
9600E 7450N	4
9600E 7400N	11
9600E 7350N	8
9600E 7300N	17
9600E 7250N	6
9600E 7200N	48
9600E 7150N	5
9600E 7100N	5
9600E 7050N	4
9600E 7000N	8
9600E 6950N	5
9600E 6900N	2
9600E 6850N	5
9600E 6800N	38
9600E 6750N	13
9600E 6700N	14
9600E 6650N	9
9600E 6600N	62
9600E 6550N	9
9600E 6500N	24
9600E 6450N	7
9600E 6400N	2
9600E 6350N	5
STANDARD AU-S	52

- SAMPLE TYPE: SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

SAMPLE#	AU* ppb
9600E 6300N	10
9600E 6250N	590
9600E 6200N	13
9600E 6150N	6
9600E 6100N	21
9600E 6050N	16
9600E 6000N	13
9600E 5850N	10
9600E 5800N	1
9600E 5750N	4
9600E 5700N	2
9600E 5650N	1
9600E 5600N	5
9600E 5550N	2
9600E 5500N	1
9600E 5450N	13
9600E 5400N	3
9600E 5350N	4
9600E 5300N	2
9600E 5250N	21
9600E 5200N	24
9600E 5150N	3
9600E 5100N	6
9600E 5050N	4
9600E 5000N	4
9600E 4950N	4
9600E 4900N	5
9600E 4850N	4
9600E 4800N	5
9600E 4750N	15
9600E 4700N	1
9600E 4650N	2
9600E 4600N	1
9600E 4500N	5
9600E 4450N	4
9600E 4400N	17
STANDARD AU-S	52

SAMPLE#	AU* ppb
9600E 4350N	85
9600E 4300N	24
9600E 4250N	4
9600E 4200N	22
9600E 4150N	29
9600E 4100N	3
9600E 4050N	1
9600E 4000N	5
9800E 8000N	5
9800E 7985N	1
9800E 7975N	2
9800E 7950N	1
9800E 7900N	1
9800E 7850N	1
9800E 7800N	4
9800E 7750N	1
9800E 7700N	6
9800E 7650N	4
9800E 7600N	11
9800E 7550N	9
9800E 7500N	6
9800E 7450N	1
9800E 7400N	2
9800E 7350N	1
9800E 7300N	2
9800E 7250N	2
9800E 7200N	2
9800E 7150N	1
9800E 7100N	12
9800E 7050N	3
9800E 7000N	3
9800E 6950N	1
9800E 6900N	8
9800E 6850N	1
9800E 6800N	6
9800E 6750N	3
STANDARD AU-S	52

SAMPLE#	AU* ppb
9800E 6700N	5
9800E 6650N	3
9800E 6600N	5
9800E 6550N	5
9800E 6500N	65
9800E 6450N	6
9800E 6400N	7
9800E 6350N	3
9800E 6300N	3
9800E 6250N	5
9800E 6200N	4
9800E 6150N	2
9800E 6100N	5
9800E 6050N	5
9800E 6000N	11
9800E 5850N	5
9800E 5800N	1
9800E 5750N	23
9800E 5700N	3
9800E 5650N	11
9800E 5600N	1
9800E 5550N	2
9800E 5500N	59
9800E 5450N	3
9800E 5400N	10
9800E 5350N	5
9800E 5300N	25
9800E 5250N	5
9800E 5200N	1
9800E 5150N	9
9800E 5100N	8
9800E 5050N	3
9800E 5000N	24
9800E 4950N	4
9800E 4900N	10
9800E 4850N	5
STANDARD AU-S	50

SAMPLE#	AU* ppb
9800E 4800N	18
9800E 4750N	4
9800E 4700N	4
9800E 4650N	3
9800E 4600N	12
9800E 4550N	4
9800E 4500N	2
9800E 4450N	1
9800E 4400N	1
9800E 4350N	5
9800E 4300N	3
9800E 4250N	5
9800E 4200N	1
9800E 4150N	30
9800E 4100N	4
9800E 4050N	2
9800E 4000N	11
10000E 8000N	1
10000E 7950N	2
10000E 7900N	3
10000E 7850N	2
10000E 7800N	3
10000E 7750N	1
10000E 7700N	3
10000E 7650N	2
10000E 7600N	49
10000E 7550N	6
10000E 7500N	4
10000E 7450N	18
10000E 7400N	2
10000E 7350N	1
10000E 7300N	1
10000E 7250N	1
10000E 7200N	1
10000E 7150N	8
10000E 7100N	5
STANDARD AU-S	55

SAMPLE#	AU* ppb
10000E 7050N	2
10000E 7000N	5
10000E 6950N	2
10000E 6900N	3
10000E 6850N	4
10000E 6800N	17
10000E 6750N	4
10000E 6700N	1
10000E 6650N	1
10000E 6600N	5
10000E 6550N	1
10000E 6500N	1
10000E 6450N	5
10000E 6400N	6
10000E 6350N	2
10000E 6300N	6
10000E 6250N	8
10000E 6200N	7
10000E 6150N	5
10000E 6100N	16
10000E 6050N	4
10000E 6025N	4
10000E 6000N	10
10000E 5850N	5
10000E 5800N	11
10000E 5750N	67
10000E 5700N	4
10000E 5650N	30
10000E 5600N	1
10000E 5550N	1
10000E 5500N	1
10000E 5450N	6
10000E 5400N	4
10000E 5350N	21
10000E 5300N	5
10000E 5250N	1
STANDARD AU-S	45

SAMPLE#	AU* ppb
10000E 5200N	4
10000E 5150N	14
10000E 5100N	3
10000E 5050N	3
10000E 5000N	1
10000E 4950N	1
10000E 4900N	1
10000E 4850N	1
10000E 4800N	1
10000E 4750N	1
10000E 4700N	1
10000E 4650N	3
10000E 4600N	1
10000E 4550N	6
10000E 4500N	2
10000E 4450N	1
10000E 4400N	1
10000E 4350N	1
10000E 4300N	5
10000E 4250N	1
10000E 4200N	2
10000E 4150N	46
10000E 4100N	6
10000E 4050N	2
10000E 4000N	1
10200E 8000N	260
10200E 7950N	13
10200E 7900N	3
10200E 7800N	7
10200E 7750N	5
10200E 7700N	5
10200E 7650N	8
10200E 7600N	1
10200E 7550N	3
10200E 7500N	2
10200E 7450N	3
STANDARD AU-S	48

SAMPLE#	AU* ppb
10200E 7400N	3
10200E 7350N	2
10200E 7300N	18
10200E 7250N	1
10200E 7200N	2
10200E 7150N	3
10200E 7100N	1
10200E 7050N	2
10200E 7000N	2
10200E 6950N	8
10200E 6900N	1
10200E 6850N	4
10200E 6800N	4
10200E 6750N	3
10200E 6700N	1
10200E 6650N	3
10200E 6600N	2
10200E 6550N	1
10200E 6500N	1
10200E 6450N	1
10200E 6400N	4
10200E 6350N	5
10200E 6300N	4
10200E 6250N	3
10200E 6200N	13
10200E 6150N	17
10200E 6100N	8
10200E 6050N	1
10200E 6025N	1
10200E 6000N	4
10200E 5900N	2
10200E 5850N	8
10200E 5800N	6
10200E 5750N	34
10200E 5700N	2
10200E 5650N	1
STANDARD AU-S	50

SAMPLE#	AU* ppb
10200E 5600N	5
10200E 5550N	1
10200E 5500N	2
10200E 5450N	1
10200E 5400N	5
10200E 5350N	3
10200E 5300N	13
10200E 5250N	4
10200E 5200N	4
10200E 5150N	2
10200E 5100N	6
10200E 5050N	9
10200E 5000N	2
10200E 4950N	2
10200E 4900N	2
10200E 4850N	3
10200E 4800N	9
10200E 4750N	4
10200E 4700N	9
10200E 4650N	1
10200E 4600N	2
10200E 4550N	355
10200E 4500N	7
10200E 4450N	4
10200E 4400N	9
10200E 4350N	5
10200E 4300N	2
10200E 4250N	5
10200E 4200N	3
10200E 4150N	5
10200E 4100N	6
10200E 4050N	1
10200E 4000N	4
10400E 8000N	2
10400E 7950N	7
10400E 7900N	3
STANDARD AU-S	53

SAMPLE#	AU* ppb
10400E 7850N	8
10400E 7800N	3
10400E 7750N	1
10400E 7700N	7
10400E 7650N	2
10400E 7600N	100
10400E 7550N	7
10400E 7500N	3
10400E 7450N	1
10400E 7400N	2
10400E 7350N	2
10400E 7300N	8
10400E 7250N	4
10400E 7200N	16
10400E 7150N	11
10400E 7100N	6
10400E 7050N	1
10400E 7000N	2
10400E 6950N	5
10400E 6900N	14
10400E 6850N	2
10400E 6800N	4
10400E 6750N	1
10400E 6700N	3
10400E 6650N	4
10400E 6600N	5
10400E 6550N	7
10400E 6500N	3
10400E 6450N	3
10400E 6400N	1
10400E 6350N	1
10400E 6300N	2
10400E 6250N	3
10400E 6200N	1
10400E 6150N	3
10400E 6100N	1
STANDARD AU-S	50

SAMPLE#	AU* ppb
10400E 6050N	6
10400E 6025N	7
10400E 6015N	4
10400E 6000N	4
10400E 5850N	3
10400E 5800N	5
10400E 5750N	8
10400E 5700N	7
10400E 5650N	56
10400E 5600N	5
10400E 5550N	11
10400E 5500N	12
10400E 5450N	2
10400E 5400N	2
10400E 5350N	2
10400E 5300N	24
10400E 5250N	12
10400E 5200N	9
10400E 5150N	3
10400E 5100N	4
10400E 5050N	4
10400E 5000N	3
10400E 4950N	23
10400E 4900N	3
10400E 4850N	1
10400E 4800N	5
10400E 4750N	7
10400E 4700N	1
10400E 4650N	3
10400E 4600N	5
10400E 4550N	4
10400E 4500N	5
10400E 4450N	4
10400E 4400N	11
10400E 4350N	5
10400E 4300N	4
STANDARD AU-S	52

SAMPLE#	AU* ppb
10400E 4250N	4
10400E 4200N	3
10400E 4150N	1
10400E 4100N	4
10400E 4050N	1
10400E 4000N	2
STANDARD AU-S	45

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 #3 FILE # 91-2544 Page 1
1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Attn: MARK STEINER

SAMPLE#	AU* ppb
3800E 12100N	3
3800E 12050N	1
3800E 12000N	3
3800E 11950N	9
3800E 11900N	5
3800E 11850N	1
3800E 11800N	2
3800E 11750N	1
3800E 11700N	1
3800E 11650N	4
3800E 11600N	2
3800E 11500N	17
3800E 11450N	1
3800E 11400N	1
3800E 11350N	1
3800E 11300N	1
3800E 11250N	1
3800E 11200N	4
3800E 11150N	1
3800E 11100N	3
3800E 11050N	5
3800E 11000N	2
3800E 10950N	2
3800E 10900N	4
3800E 10850N	3
3800E 10800N	21
3800E 10750N	3
3800E 10700N	8
3800E 10650N	1
3800E 10600N	2
3800E 10550N	3
3800E 10500N	1
3800E 10450N	1
3800E 10400N	3
3800E 10350N	1
3800E 10300N	1
STANDARD AU-S	46

- SAMPLE TYPE: SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 15 1991 DATE REPORT MAILED: July 23/91

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

RECEIVED
JUL 24 1991

SAMPLE#	AU* ppb
3800E 10250N	2
3800E 10200N	6
3800E 10150N	4
3800E 10100N	11
3800E 10050N	3
3800E 10000N	1
4200E 12100N	1
4200E 11950N	1
4200E 11900N	1
4200E 11850N	1
4200E 11800N	2
4200E 11750N	1
4200E 11700N	6
4200E 11650N	2
4200E 11600N	3
4200E 11550N	3
4200E 11500N	8
4200E 11450N	6
4200E 11400N	2
4200E 11350N	2
4200E 11300N	5
4200E 11250N	2
4200E 11200N	3
4200E 11150N	3
4200E 11100N	2
4200E 11050N	2
4200E 11000N	64
4200E 10900N	1
4200E 10850N	6
4200E 10800N	5
4200E 10750N	3
4200E 10700N	2
4200E 10650N	9
4200E 10600N	3
4200E 10550N	6
4200E 10500N	3
STANDARD AU-S	49

SAMPLE#	AU* ppb
4200E 10450N	2
4200E 10400N	1
4200E 10350N	12
4200E 10300N	15
4200E 10250N	1
4200E 10200N	5
4200E 10150N	9
4200E 10100N	6
4200E 10050N	92
4200E 10000N	15
4600E 12100N	15
4600E 12050N	1
4600E 12000N	3
4600E 11950N	1
4600E 11900N	1
4600E 11850N	1
4600E 11800N	1
4600E 11750N	2
4600E 11700N	4
4600E 11650N	1
4600E 11600N	1
4600E 11550N	2
4600E 11500N	5
4600E 11450N	1
4600E 11400N	49
4600E 11350N	4
4600E 11300N	1
4600E 11250N	2
4600E 11200N	6
4600E 11150N	32
4600E 11100N	2
4600E 11050N	1
4600E 11000N	1
4600E 10950N	2
4600E 10900N	3
4600E 10850N	9
STANDARD AU-S	50

SAMPLE#	AU* ppb
4600E 10800N	10
4600E 10750N	60
4600E 10700N	3
4600E 10650N	4
4600E 10600N	3
4600E 10550N	3
4600E 10500N	7
4600E 10450N	3
4600E 10400N	4
4600E 10350N	2
4600E 10300N	3
4600E 10250N	4
4600E 10200N	26
4600E 10150N	9
4600E 10100N	1
4600E 10050N	2
4600E 10000N	5
5000E 12100N	10
5000E 12050N	1
5000E 12000N	1
5000E 11950N	3
5000E 11900N	1
5000E 11850N	2
5000E 11800N	1
5000E 11750N	1
5000E 11700N	2
5000E 11650N	1
5000E 11600N	2
5000E 11550N	4
5000E 11500N	4
5000E 11450N	1
5000E 11400N	1
5000E 11350N	2
5000E 11300N	6
5000E 11250N	1
5000E 11200N	1
STANDARD Au-S	51

SAMPLE#	AU* ppb
5000E 11150N	5
5000E 11100N	5
5000E 11050N	3
5000E 11000N	2
5000E 10950N	2
5000E 10900N	1
5000E 10850N	1
5000E 10800N	3
5000E 10750N	3
5000E 10700N	7
5000E 10650N	2
5000E 10600N	3
5000E 10550N	6
5000E 10500N	5
5000E 10450N	4
5000E 10400N	3
5000E 10350N	1
5000E 10300N	2
5000E 10250N	1
5000E 10200N	1
5000E 10150N	4
5000E 10100N	2
5000E 10050N	2
5000E 10000N	3
5000E 8000N	1
5000E 7650N	3
5000E 7600N	5
5000E 7550N	2
5000E 7500N	3
5000E 7450N	7
5000E 7400N	1
5000E 7350N	2
5000E 7300N	14
5000E 7250N	31
5000E 7200N	7
5000E 7150N	1
STANDARD AU-S	53

SAMPLE#	AU* ppb
5000E 7100N	5
5000E 7050N	4
5000E 7000N	1
5000E 6950N	1
5000E 6900N	3
5000E 6850N	2
5000E 6800N	3
5000E 6750N	2
5000E 6700N	4
5000E 6650N	2
5000E 6600N	5
5000E 6550N	2
5000E 6500N	2
5000E 6450N	3
5000E 6400N	2
5000E 6350N	1
5000E 6300N	1
5000E 6250N	2
5000E 6200N	2
5000E 6150N	2
5000E 6100N	4
5000E 6050N	2
5000E 6000N	2
5400E 12100N	1
5400E 12050N	1
5400E 12000N	2
5400E 11950N	5
5400E 11900N	1
5400E 11850N	1
5400E 11800N	4
5400E 11750N	1
5400E 11700N	1
5400E 11650N	1
5400E 11600N	3
5400E 11550N	1
5400E 11500N	86
STANDARD AU-S	52

SAMPLE#	AU* ppb
5400E 11450N	2
5400E 11400N	1
5400E 11350N	2
5400E 11300N	1
5400E 11250N	1
5400E 11200N	1
5400E 11150N	1
5400E 11100N	1
5400E 11050N	1
5400E 11000N	1
5400E 10950N	1
5400E 10900N	1
5400E 10850N	1
5400E 10800N	1
5400E 10750N	1
5400E 10700N	1
5400E 10650N	5
5400E 10600N	11
5400E 10550N	3
5400E 10500N	4
5400E 10450N	8
5400E 10400N	1
5400E 10350N	2
5400E 10300N	2
5400E 10250N	1
5400E 10200N	1
5400E 10150N	1
5400E 10100N	1
5400E 10050N	1
5400E 10000N	1
5400E 8000N	2
5400E 7800N	4
5400E 7750N	1
5400E 7700N	1
5400E 7650N	7
5400E 7600N	1
STANDARD AU-S	53

SAMPLE#	AU* ppb
5400E 7550N	3
5400E 7500N	4
5400E 7450N	3
5400E 7400N	3
5400E 7350N	1
5400E 7300N	2
5400E 7250N	10
5400E 7200N	2
5400E 7150N	3
5400E 7100N	1
5400E 7050N	2
5400E 7000N	20
5400E 6950N	2
5400E 6900N	5
5400E 6850N	17
5400E 6800N	6
5400E 6750N	4
5400E 6700N	56
5400E 6650N	2
5400E 6600N	1
5400E 6550N	5
5400E 6500N	4
5400E 6450N	8
5400E 6400N	3
5400E 6350N	2
5400E 6300N	2
5400E 6250N	6
5400E 6200N	1
5400E 6150N	1
5400E 6100N	3
5400E 6050N	3
5400E 6000N	2
5800E 12100N	1
5800E 12050N	2
5800E 12000N	3
5800E 11950N	2
STANDARD AU-S	51

SAMPLE#	AU* ppb
5800E 11900N	3
5800E 11850N	3
5800E 11800N	2
5800E 11750N	2
5800E 11700N	1
5800E 11650N	3
5800E 11600N	69
5800E 11550N	2
5800E 11500N	1
5800E 11450N	1
5800E 11400N	1
5800E 11350N	1
5800E 11300N	22
5800E 11250N	1
5800E 11200N	1
5800E 11150N	2
5800E 11100N	1
5800E 11050N	1
5800E 11000N	7
5800E 10950N	2
5800E 10900N	1
5800E 10800N	1
5800E 10750N	9
5800E 10650N	4
5800E 10500N	7
5800E 10450N	1
5800E 10400N	2
5800E 10350N	1
5800E 10300N	1
5800E 10250N	1
5800E 10200N	1
5800E 10150N	1
5800E 10100N	2
5800E 10050N	1
5800E 10000N	2
5800E 8000N	23
STANDARD AU-S	47

SAMPLE#	AU* ppb
5800E 7800N	10
5800E 7750N	10
5800E 7700N	6
5800E 7650N	9
5800E 7600N	6
5800E 7550N	5
5800E 7500N	6
5800E 7450N	37
5800E 7400N	7
5800E 7350N	51
5800E 7300N	8
5800E 7250N	7
5800E 7200N	8
5800E 7150N	2
5800E 7100N	7
5800E 7050N	4
5800E 7000N	2
5800E 6950N	9
5800E 6900N	4
5800E 6800N	1
5800E 6750N	3
5800E 6700N	7
5800E 6650N	3
5800E 6600N	3
5800E 6550N	2
5800E 6500N	19
5800E 6450N	5
5800E 6400N	7
5800E 6350N	4
5800E 6300N	5
5800E 6250N	2
5800E 6200N	5
5800E 6150N	4
5800E 6100N	5
5800E 6050N	6
5800E 6000N	3
STANDARD AU-S	52

SAMPLE#	AU* ppb
6200E 12100N	1
6200E 12000N	1
6200E 11950N	3
6200E 11900N	1
6200E 11850N	5
6200E 11800N	1
6200E 11750N	3
6200E 11700N	2
6200E 11650N	1
6200E 11600N	1
6200E 11550N	1
6200E 11500N	1
6200E 11450N	1
6200E 11400N	1
6200E 11350N	5
6200E 11300N	2
6200E 11250N	2
6200E 11200N	2
6200E 11150N	1
6200E 11100N	4
6200E 11050N	2
6200E 11000N	1
6200E 10950N	1
6200E 10900N	1
6200E 10850N	1
6200E 10850NA	1
6200E 10800N	1
6200E 10750N	3
6200E 10700N	1
6200E 10650N	1
6200E 10600N	2
6200E 10550N	1
6200E 10500N	1
6200E 10450N	1
6200E 10400N	2
6200E 10350N	2
STANDARD AU-S	51

SAMPLE#	AU* ppb
6200E 10300N	34
6200E 10250N	4
6200E 10200N	8
6200E 10150N	3
6200E 10100N	2
6200E 10050N	4
6200E 10000N	2
6200E 8000N	3
6200E 7800N	6
6200E 7750N	7
6200E 7700N	41
6200E 7650N	6
6200E 7600N	2
6200E 7550N	1
6200E 7500N	1
6200E 7450N	2
6200E 7400N	2
6200E 7350N	3
6200E 7300N	4
6200E 7250N	10
6200E 7200N	1
6200E 7150N	5
6200E 7100N	7
6200E 7050N	12
6200E 7000N	4
6200E 6950N	7
6200E 6900N	6
6200E 6850N	9
6200E 6800N	4
6200E 6750N	1
6200E 6700N	3
6200E 6650N	58
6200E 6600N	73
6200E 6550N	5
6200E 6500N	2
6200E 6450N	3
STANDARD AU-S	49

SAMPLE#	AU* ppb
6200E 6400N	10
6200E 6300N	3
6200E 6250N	3
6200E 6200N	3
6200E 6150N	3
6200E 6100N	1
6200E 6050N	3
6200E 6000N	4
6600E 12100N	1
6600E 12070N	2
6600E 12060N	1
6600E 12050N	15
6600E 12000N	3
6600E 11950N	2
6600E 11900N	1
6600E 11850N	3
6600E 11800N	1
6600E 11750N	7
6600E 11700N	3
6600E 11650N	14
6600E 11600N	1
6600E 11550N	4
6600E 11500N	3
6600E 11450N	1
6600E 11400N	1
6600E 11350N	1
6600E 11300N	1
6600E 11250N	1
6600E 11200N	56
6600E 11150N	1
6600E 11100N	2
6600E 11050N	51
6600E 11000N	1
6600E 10950N	3
6600E 10900N	1
6600E 10850N	4
STANDARD AU-S	52

SAMPLE#	AU* ppb
6600E 10800N	2
6600E 10750N	2
6600E 10700N	34
6600E 10650N	3
6600E 10600N	2
6600E 10550N	2
6600E 10500N	2
6600E 10450N	3
6600E 10400N	1
6600E 10350N	1
6600E 10300N	3
6600E 10250N	1
6600E 10200N	1
6600E 10150N	2
6600E 10100N	1
6600E 10050N	1
6600E 8000N	2
6600E 7850N	1
6600E 7800N	1
6600E 7750N	1
6600E 7700N	1
6600E 7650N	2
6600E 7600N	8
6600E 7550N	2
6600E 7500N	1
6600E 7450N	2
6600E 7400N	1
6600E 7350N	3
6600E 7300N	7
6600E 7250N	1
6600E 7200N	2
6600E 7150N	6
6600E 7100N	3
6600E 7050N	3
6600E 7000N	3
6600E 6950N	1
STANDARD AU-S	46

SAMPLE#	AU* ppb
6600E 6900N	2
6600E 6850N	4
6600E 6800N	4
6600E 6750N	3
6600E 6700N	7
6600E 6650N	10
6600E 6550N	12
6600E 6500N	6
6600E 6450N	2
6600E 6400N	4
6600E 6350N	2
6600E 6300N	1
6600E 6250N	4
6600E 6200N	5
6600E 6150N	7
6600E 6100N	6
6600E 6050N	1
6600E 6000N	2
7000E 12100N	13
7000E 12050N	2
7000E 12000N	3
7000E 11950N	1
7000E 11900N	1
7000E 11850N	1
7000E 11800N	2
7000E 11750N	1
7000E 11700N	4
7000E 11650N	1
7000E 11600N	3
7000E 11550N	2
7000E 11500N	1
7000E 11450N	2
7000E 11400N	20
7000E 11350N	3
7000E 11300N	2
7000E 11250N	1
STANDARD AU-S	45

SAMPLE#	AU* ppb
7000E 11200N	8
7000E 11150N	1
7000E 11100N	10
7000E 11050N	4
7000E 11000N	2
7000E 10950N	1
7000E 10900N	2
7000E 10850N	1
7000E 10800N	4
7000E 10750N	1
7000E 10700N	6
7000E 10650N	1
7000E 10600N	1
7000E 10550N	1
7000E 10500N	1
7000E 10450N	1
7000E 10400N	1
7000E 10350N	17
7000E 10300N	3
7000E 10250N	1
7000E 10200N	1
7000E 10150N	2
7000E 10100N	1
7000E 10050N	1
7000E 8000N	3
7000E 7850N	29
7000E 7800N	1
7000E 7750N	3
7000E 7700N	2
7000E 7650N	2
7000E 7600N	2
7000E 7550N	2
7000E 7500N	62
7000E 7450N	6
7000E 7400N	1
7000E 7350N	1
STANDARD AU-S	50

SAMPLE#	AU* ppb
7000E 7300N	3
7000E 7250N	10
7000E 7200N	6
7000E 7150N	8
7000E 7100N	7
7000E 7050N	1
7000E 7000N	4
7000E 6900N	4
7000E 6750N	4
7000E 6700N	5
7000E 6650N	14
7000E 6600N	5
7000E 6550N	4
7000E 6500N	3
7000E 6450N	4
7000E 6400N	4
7000E 6350N	4
7000E 6300N	15
7000E 6250N	23
7000E 6200N	4
7000E 6150N	2
7000E 6100N	4
7000E 6050N	3
7000E 6000N	3
7200E 12050N	1
7200E 12000N	1
7200E 11950N	25
7200E 11900N	2
7200E 11850N	1
7200E 11800N	1
7200E 11750N	7
7200E 11700N	1
7200E 11650N	2
7200E 11600N	1
7200E 11550N	1
7200E 11500N	1
STANDARD AU-S	54

SAMPLE#	AU* ppb
7200E 11450N	2
7200E 11400N	1
7200E 11350N	2
7200E 11300N	3
7200E 11250N	1
7200E 11200N	1
7200E 11150N	5
7200E 11100N	3
7200E 11050N	8
7200E 11000N	1
7200E 10950N	3
7200E 10900N	3
7200E 10850N	2
7200E 10800N	1
7200E 10750N	2
7200E 10700N	2
7200E 10650N	1
7200E 10600N	2
7200E 10550N	2
7200E 10500N	3
7200E 10450N	1
7200E 10400N	3
7200E 10350N	2
7200E 10300N	4
7200E 10250N	2
7200E 10200N	1
7200E 10150N	2
7200E 10100N	3
7200E 10050N	3
7200E 10000N	2
7200E 9900N	1
7200E 9850N	1
7200E 9800N	2
7200E 9750N	3
7200E 9700N	2
7200E 9650N	2
STANDARD AU-S	46

SAMPLE#	AU* ppb
7200E 9600N	1
7200E 9550N	1
7200E 9500N	1
7200E 9450N	2
7200E 9400N	1
7200E 9350N	1
7200E 9300N	1
7200E 9250N	1
7200E 9200N	2
7200E 9150N	1
7200E 9100N	1
7200E 9050N	1
7200E 9000N	1
7200E 8950N	2
7200E 8900N	2
7200E 8850N	1
7200E 8800N	1
7200E 8750N	1
7200E 8700N	2
7200E 8650N	1
7200E 8600N	1
7200E 8550N	2
7200E 8500N	1
7200E 8450N	1
7200E 8400N	1
7200E 8350N	1
7200E 8300N	1
7200E 8250N	1
7200E 8200N	1
7200E 8150N	1
7200E 8100N	2
7200E 8050N	1
7200E 8000N	1
7400E 10000N	1
7400E 9950N	1
7400E 9900N	1
STANDARD AU-S	46

SAMPLE#	AU* ppb
7400E 9800N	2
7400E 9750N	2
7400E 9700N	5
7400E 9650N	2
7400E 9600N	2
7400E 9550N	1
7400E 9500N	2
7400E 9450N	2
7400E 9400N	12
7400E 9350N	2
7400E 9300N	2
7400E 9250N	1
7400E 9200N	1
7400E 9150N	3
7400E 9100N	1
7400E 9050N	1
7400E 9000N	1
7400E 8950N	2
7400E 8900N	1
7400E 8850N	2
7400E 8800N	2
7400E 8750N	2
7400E 8700N	1
7400E 8650N	2
7400E 8600N	2
7400E 8550N	3
7400E 8500N	1
7400E 8450N	1
7400E 8400N	2
7400E 8350N	1
7400E 8300N	4
7400E 8250N	1
7400E 8200N	96
7400E 8150N	1
7400E 8100N	1
7400E 8050N	1
STANDARD AU-S	48

SAMPLE#	AU* ppb
7400E 8000N	1
7400E 7900N	1
7400E 7850N	1
7400E 7800N	1
7400E 7750N	3
7400E 7700N	1
7400E 7650N	1
7400E 7600N	1
7400E 7550N	3
7400E 7500N	6
7400E 7450N	1
7400E 7400N	5
7400E 7350N	3
7400E 7300N	2
7400E 7250N	1
7400E 7200N	2
7400E 7150N	5
7400E 7100N	13
7400E 7050N	1
7400E 7000N	2
7400E 6950N	4
7400E 6900N	4
7400E 6850N	2
7400E 6800N	2
7400E 6750N	1
7400E 6700N	1
7400E 6650N	1
7400E 6600N	1
7400E 6550N	2
7400E 6500N	3
7400E 6450N	3
7400E 6400N	2
7400E 6350N	4
7400E 6300N	9
7400E 6250N	2
7400E 6200N	4
STANDARD AU-S	51

SAMPLE#	AU* ppb
7400E 6150N	3
7400E 6100N	9
7400E 6050N	2
7800E 8000N	1
7800E 7950N	3
7800E 7900N	3
7800E 7850N	1
7800E 7800N	1
7800E 7750N	1
7800E 7700N	1
7800E 7630N	2
7800E 7600N	1
7800E 7550N	2
7800E 7500N	4
7800E 7450N	2
7800E 7400N	2
7800E 7350N	5
7800E 7300N	1
7800E 7250N	3
7800E 7200N	2
7800E 7150N	1
7800E 7100N	4
7800E 7050N	4
8150E 7500N	2
8150E 7450N	4
8150E 7400N	10
8150E 7300N	25
8150E 7250N	41
8150E 7200N	3
8200E 8000N	2
8200E 7950N	10
8200E 7900N	28
8200E 7850N	2
8200E 7800N	7
8200E 7750N	5
8200E 7700N	3
STANDARD AU-S	54

SAMPLE#	AU* ppb
8200E 7650N	1
8200E 7600N	1
8200E 7550N	1
8200E 7500N	1
8200E 7150N	8
8200E 7100N	7
8200E 7050N	8
8600E 8000N	1
8600E 7950N	2
8600E 7900N	1
8600E 7850N	2
8600E 7800N	12
8600E 7750N	4
8600E 7700N	2
8600E 7650N	2
8600E 7600N	2
8600E 7550N	3
8600E 7500N	56
8600E 7450N	3
8600E 7400N	5
8600E 7350N	14
8600E 7300N	5
8600E 7250N	17
8600E 7200N	8
8600E 7150N	2
8600E 7100N	4
8600E 7050N	1
8600E 7000N	4
9000E 8000N	2
9000E 7950N	4
9000E 7850N	7
9000E 7800N	4
9000E 7750N	5
9000E 7700N	4
9000E 7650N	4
9000E 7600N	7
STANDARD AU-S	52

SAMPLE#	AU* ppb
9000E 7550N	17
9000E 7500N	6
9000E 7450N	7
9000E 7400N	14
9000E 7350N	5
9000E 7300N	9
9000E 7250N	9
9000E 7200N	3
9000E 7150N	7
9000E 7100N	6
9000E 7050N	3
9000E 7000N	6
9400E 8000N	9
9400E 7950N	4
9400E 7900N	4
9400E 7850N	1
9400E 7800N	2
9400E 7750N	3
9400E 7700N	3
9400E 7650N	4
9400E 7600N	3
9400E 7550N	5
9400E 7500N	9
9400E 7450N	8
9400E 7400N	3
9400E 7350N	5
9400E 7300N	1
9400E 7250N	3
9400E 7200N	4
9400E 7150N	2
9400E 7100N	5
9400E 7050N	1
9400E 7045N	6
9400E 7040N	3
9400E 7000N	1
9700E 14100N	3
STANDARD AU-S	48

SAMPLE#	AU* ppb
9700E 14050N	13
9700E 14000N	1
9700E 13950N	1
9700E 13900N	2
9700E 13850N	2
9700E 13800N	1
9700E 13750N	1
9700E 13700N	2
9700E 13650N	1
9700E 13550N	1
9700E 13500N	62
9700E 13450N	4
9700E 13400N	3
9700E 13350N	1
9700E 13300N	1
9700E 13200N	1
9700E 13150N	2
9700E 13000N	1
9700E 12800N	2
9700E 12750N	2
9700E 12700N	11
9700E 12650N	2
9700E 12600N	2
9700E 12550N	3
9700E 12500N	4
9700E 12450N	5
9700E 12400N	6
9700E 12350N	6
9700E 12300N	4
9700E 12250N	2
9700E 12200N	2
9700E 12150N	3
9700E 12100N	1
STANDARD Au-S	53

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 # 91-2742 Page 1
1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Attn: MARK STEINER

SAMPLE#	AU* ppb
2600E 12100N	3.4
2600E 12000N	1.8
2600E 11950N	1.1
2600E 11900N	2.0
2600E 11850N	9.8
2600E 11800N	6.7
2600E 11750N	1.5
2600E 11700N	1.5
2600E 11650N	1.2
2600E 11600N	1.1
2600E 11550N	.6
2600E 11500N	1.7
2600E 11450N	1.2
2600E 11400N	1.0
2600E 11350N	1.6
2600E 11300N	1.1
2600E 11250N	2.1
2600E 11200N	1.9
2600E 11150N	.7
2600E 11100N	.2
2600E 11050N	.5
2600E 11000N	.9
2600E 10950N	3.1
2600E 10900N	1.2
2600E 10850N	.8
2600E 10800N	4.9
2600E 10750N	1.5
2600E 10700N	1.1
2600E 10650N	1.5
2600E 10600N	2.3
2600E 10550N	1.7
2600E 10500N	1.7
2600E 10450N	1.8
2600E 10400N	.9
2600E 10350N	4.8
2600E 10300N	1.0
STANDARD AU-S	49.1

- SAMPLE TYPE: SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 22 1991 DATE REPORT MAILED: July 27/91

RECEIVED
JUL 29 1991

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

SAMPLE#	AU* ppb
2600E 10250N	2.3
2600E 10200N	.8
2600E 10150N	4.9
2600E 10100N	2.0
2600E 10050N	1.7
2600E 10000N	.4
3000E 12050N	2.4
3000E 12000N	.4
3000E 11950N	3.1
3000E 11900N	1.2
3000E 11850N	11.1
3000E 11800N	6.2
3000E 11750N	6.6
3000E 11700N	4.9
3000E 11650N	.3
3000E 11600N	.8
3000E 11550N	1.8
3000E 11500N	.2
3000E 11450N	.5
3000E 11400N	1.0
3000E 11350N	2.0
3000E 11300N	.7
3000E 11250N	.5
3000E 11200N	1.7
3000E 11150N	.5
3000E 11100N	1.1
3000E 11050N	.6
3000E 11000N	.4
3000E 10950N	1.6
3000E 10900N	.8
3000E 10850N	11.3
3000E 10800N	.9
3000E 10750N	.9
3000E 10700N	2.5
3000E 10650N	2.0
3000E 10600N	1.1
STANDARD AU-S	50.8

SAMPLE#	AU* ppb
3000E 10550N	4.8
3000E 10500N	.2
3000E 10450N	.2
3000E 10400N	3.4
3000E 10350N	4.7
3000E 10300N	3.5
3000E 10250N	3.0
3000E 10150N	.2
3000E 10100N	.2
3000E 10050N	1.0
3000E 10000N	.2
3400E 12100N	.2
3400E 12050N	.2
3400E 12000N	1.2
3400E 11950N	29.9
3400E 11900N	4.1
3400E 11850N	.2
3400E 11800N	1.7
3400E 11750N	5.1
3400E 11700N	.2
3400E 11650N	1.8
3400E 11600N	.2
3400E 11550N	.2
3400E 11500N	.2
3400E 11450N	.3
3400E 11400N	.6
3400E 11350N	7.6
3400E 11300N	1.9
3400E 11250N	.6
3400E 11200N	.2
3400E 11150N	.2
3400E 11100N	.2
3400E 11050N	1.9
3400E 11000N	.2
3400E 10950N	2.4
3400E 10900N	.2
STANDARD C	52.6

SAMPLE#	AU* ppb
3400E 10850N	3.0
3400E 10800N	.9
3400E 10750N	3.6
3400E 10700N	.3
3400E 10650N	1.3
3400E 10600N	1.5
3400E 10550N	4.1
3400E 10500N	8.9
3400E 10450N	16.0
3400E 10400N	12.9
3400E 10350N	29.3
3400E 10300N	15.3
3400E 10250N	10.8
3400E 10200N	35.2
3400E 10150N	3.7
3400E 10100N	3.2
3400E 10050N	6.1
3400E 10000N	.9
8500E 14100N	1.7
8500E 13950N	2.1
8500E 13900N	2.3
8500E 13850N	6.7
8500E 13800N	1.5
8500E 13750N	2.7
8500E 13700N	2.3
8500E 13650N	2.5
8500E 13600N	1.3
8500E 13550N	3.3
8500E 13500N	1.1
8500E 13450N	1.5
8500E 13400N	1.5
8500E 13350N	1.5
8500E 13300N	3.2
8500E 13150N	2.5
8500E 13100N	2.1
8500E 13050N	4.8
STANDARD AU-S	52.4

SAMPLE#	AU* ppb
8500E 13000N	2.9
8500E 12950N	.7
8500E 12900N	1.1
8500E 12850N	3.2
8500E 12700N	7.1
8500E 12650N	15.3
8500E 12600N	12.0
8500E 12550N	2.1
8500E 12500N	2.3
8500E 12450N	3.0
8500E 12400N	1.8
8500E 12350N	8.4
8500E 12300N	2.4
8500E 12250N	1.7
8500E 12200N	6.9
8500E 12150N	30.9
8500E 12100N	4.7
8900E 14000N	1.6
8900E 13950N	3.1
8900E 13900N	2.2
8900E 13800N	3.5
8900E 13750N	1.6
8900E 13700N	5.0
8900E 13650N	6.0
8900E 13600N	1.1
8900E 13550N	.8
8900E 13500N	3.3
8900E 13450N	.2
8900E 13400N	3.4
8900E 13350N	3.6
8900E 13200N	3.5
8900E 13150N	31.3
8900E 13100N	1.5
8900E 13050N	3.7
8900E 13000N	.8
8900E 12950N	2.7
STANDARD AU-S	48.3

SAMPLE#	AU* ppb
8900E 12900N	1.3
8900E 12850N	1.3
8900E 12800N	2.6
8900E 12750N	6.0
8900E 12700N	1.3
8900E 12650N	8.7
8900E 12600N	2.4
8900E 12550N	2.7
8900E 12500N	4.3
8900E 12450N	3.0
8900E 12400N	3.0
8900E 12350N	4.0
8900E 12300N	7.8
8900E 12250N	12.9
8900E 12200N	5.0
8900E 12150N	2.3
8900E 12100N	5.1
9300E 14100N	4.4
9300E 14100NA	1.9
9300E 14100NB	.8
9300E 14050N	.2
9300E 14000N	1.6
9300E 13950N	1.8
9300E 13900N	1.6
9300E 13850N	.2
9300E 13800N	.2
9300E 13750N	1.4
9300E 13700N	.2
9300E 13650N	7.7
9300E 13600N	.2
9300E 13550N	3.3
9300E 13500N	2.2
9300E 13450N	3.1
9300E 13400N	.7
9300E 13350N	4.9
9300E 13300N	.2
STANDARD AU-S	47.9

SAMPLE#	AU*S ppb
9300E 13150N	2.4
9300E 13100N	13.6
9300E 13050N	2.1
9300E 13000N	1.9
9300E 12950N	3.8
9300E 12900N	6.1
9300E 12850N	4.9
9300E 12800N	1.4
9300E 12750N	3.7
9300E 12700N	.7
9300E 12650N	2.4
9300E 12600N	4.5
9300E 12550N	5.6
9300E 12500N	1.8
9300E 12450N	11.3
9300E 12400N	16.6
9300E 12350N	2.7
9300E 12300N	1.2
9300E 12200N	.2
9300E 12150N	4.4
9300E 12100N	1.3
10100E 14100N	1.1
10100E 14050N	3.0
10100E 14000N	1.8
10100E 13950N	1.3
10100E 13900N	1.3
10100E 13850N	1.5
10100E 13800N	2.2
10100E 13700N	3.2
10100E 13650N	1.6
10100E 13600N	5.5
10100E 13550N	2.4
10100E 13500N	1.3
10100E 13450N	3.0
10100E 13400N	1.9
STANDARD AU-S	52.9

SAMPLE#	AU* ppb
10100E 13350N	1.7
10100E 13300N	4.1
10100E 13250N	5.1
10100E 13200N	3.0
10100E 13150N	1.8
10100E 13100N	7.6
10100E 13050N	4.8
10100E 13000N	23.6
10100E 12850N	1.0
10100E 12800N	2.2
10100E 12750N	3.3
10100E 12700N	1.2
10100E 12650N	1.2
10100E 12600N	27.8
10100E 12550N	10.5
10100E 12500N	5.0
10100E 12450N	5.1
10100E 12400N	6.1
10100E 12350N	6.5
10100E 12300N	4.6
10100E 12250N	11.2
10100E 12200N	13.5
10100E 12150N	2.8
10100E 12100N	11.3
10500E 14100N	6.0
10500E 14050N	2.3
10500E 14000N	1.7
10500E 13950N	2.2
10500E 13900N	1.2
10500E 13850N	1.2
10500E 13800N	2.5
10500E 13750N	1.5
10500E 13700N	2.7
10500E 13650N	2.5
10500E 13600N	2.4
10500E 13550N	7.9
STANDARD AU-S	45.7

SAMPLE#	AU* ppb
10500E 13500N	8.4
10500E 13450N	19.0
10500E 13400N	3.1
10500E 13350N	6.0
10500E 13300N	2.5
10500E 13250N	2.9
10500E 13200N	3.4
10500E 13150N	7.3
10500E 13100N	36.3
10500E 13050N	20.2
10500E 13000N	19.1
10500E 12950N	13.4
10500E 12900N	3.3
10500E 12850N	1.1
10500E 12700N	6.0
10500E 12650N	3.1
10500E 12600N	3.9
10500E 12550N	3.5
10500E 12500N	1.8
10500E 12450N	2.1
10500E 12350N	4.9
10500E 12300N	1.6
10500E 12250N	4.5
10500E 12200N	2.3
10500E 12150N	4.1
10500E 12100N	5.2
10900E 14100N	.8
10900E 14050N	9.9
10900E 14000N	1.9
10900E 13950N	7.3
10900E 13900N	2.7
10900E 13850N	1.6
10900E 13800N	17.6
10900E 13750N	1.0
10900E 13700N	1.5
10900E 13650N	2.0
STANDARD AU-S	51.0

SAMPLE#	AU* ppb
10900E 13600N	.9
10900E 13550N	.4
10900E 13500N	.4
10900E 13450N	2.2
10900E 13400N	.5
10900E 13250N	2.1
10900E 13200N	3.5
10900E 13150N	6.1
10900E 13100N	9.6
10900E 13050N	3.3
10900E 13000N	2.4
10900E 12900N	.7
10900E 12850N	.5
10900E 12800N	.2
10900E 12750N	3.1
10900E 12600N	.5
10900E 12550N	.2
10900E 12500N	.2
10900E 12450N	4.0
10900E 12400N	.7
10900E 12350N	.9
10900E 12300N	1.7
10900E 12200N	.7
10900E 12150N	4.9
10900E 12100N	2.5
11300E 14100N	.2
11300E 14050N	1.1
11300E 14000N	8.3
11300E 13950N	.6
11300E 13900N	1.9
11300E 13850N	3.8
11300E 13800N	5.7
11300E 13750N	4.0
11300E 13700N	.6
11300E 13650N	.9
11300E 13600N	2.4
STANDARD AU-S	47.4

SAMPLE#	AU* ppb
11300E 13550N	6.2
11300E 13500N	67.5
11300E 13450N	7.5
11300E 13400N	3.9
11300E 13350N	7.4
11300E 13300N	7.3
11300E 13250N	1.0
11300E 13200N	300.0
11300E 13150N	45.5
11300E 13100N	9.9
11300E 13050N	11.4
11300E 13000N	4.6
11300E 12950N	4.1
11300E 12900N	54.2
11300E 12850N	12.9
11300E 12800N	12.1
11300E 12750N	5.6
11300E 12700N	15.3
11300E 12650N	23.0
11300E 12450N	2.9
11300E 12400N	3.2
11300E 12350N	2.0
11300E 12300N	4.8
11300E 12250N	4.5
11300E 12200N	4.5
11300E 12150N	5.0
11300E 12100N	2.4
11700E 14100N	.8
11700E 14050N	3.7
11700E 14000N	3.0
11700E 13950N	1.3
11700E 13900N	3.1
11700E 13850N	5.0
11700E 13800N	2.6
11700E 13750N	1.3
11700E 13700N	1.7
STANDARD AU-S	51.2

SAMPLE#	AU* ppb
11700E 13650N	1.9
11700E 13600N	1.1
11700E 13550N	.7
11700E 13500N	3.3
11700E 13450N	.5
11700E 13400N	1.8
11700E 13350N	3.7
11700E 13300N	1.2
11700E 13250N	5.0
11700E 13200N	3.5
11700E 13150N	4.0
11700E 13100N	13.2
11700E 13050N	6.4
11700E 13000N	12.7
11700E 12950N	6.3
11700E 12900N	1.0
11700E 12800N	9.3
11700E 12700N	16.2
11700E 12650N	6.3
11700E 12600N	.9
11700E 12550N	12.4
11700E 12500N	11.0
11700E 12350N	9.0
11700E 12300N	7.9
11700E 12250N	4.2
11700E 12200N	11.9
11700E 12150N	1.9
11700E 12100N	1.3
12100E 14100N	.7
12100E 14050N	.3
12100E 14000N	2.0
12100E 13950N	.2
12100E 13900N	.4
12100E 13850N	1.9
12100E 13800N	.7
12100E 13700N	.2
STANDARD AU-S	54.7

SAMPLE#	AU* ppb
12100E 13650N	4.6
12100E 13600N	2.7
12100E 13550N	.5
12100E 13500N	1.2
12100E 13450N	.9
12100E 13400N	1.3
12100E 13350N	1.0
12100E 13300N	.2
12100E 13250N	.8
12100E 13200N	1.7
12100E 13150N	.2
12100E 13100N	4.3
12100E 13050N	14.2
12100E 13000N	93.3
12100E 12950N	12.0
12100E 12900N	9.6
12100E 12800N	2.4
12100E 12750N	.2
12100E 12700N	1.1
12100E 12650N	.9
12100E 12600N	1.0
12100E 12550N	1.4
12100E 12500N	1.3
12100E 12450N	2.0
12100E 12400N	9.3
12100E 12350N	1.9
12100E 12200N	1.5
12100E 12150N	5.2
12100E 12125N	1.7
12100E 12100N	.7
STANDARD AU-S	51.6

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 #6 FILE # 91-2955 Page 1
1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Attn: MARK STEINER

SAMPLE#	AU* ppb
4200E 9950N	10.3
4200E 9900N	4.2
4200E 9850N	5.7
4200E 9800N	82.6
4200E 9750N	13.6
4200E 9700N	6.7
4200E 9650N	4.9
4200E 9600N	5.9
4200E 9550N	31.8
4200E 9500N	13.3
4200E 9450N	41.1
4200E 9400N	5.0
4200E 9350N	3.4
4200E 9300N	3.9
4200E 9250N	1.9
4200E 9200N	2.4
4200E 9150N	3.0
4200E 9100N	2.8
4200E 9050N	2.1
4200E 9000N	2.2
4200E 8950N	2.4
4200E 8900N	2.3
4200E 8850N	2.6
4200E 8800N	1.1
4200E 8750N	2.7
4200E 8700N	1.9
4200E 8650N	2.0
4200E 8600N	1.5
4200E 8550N	2.3
4200E 8500N	1.3
4200E 8450N	.9
4200E 8400N	1.9
4200E 8350N	1.1
4200E 8300N	1.5
4200E 8250N	1.8
4200E 8200N	4.2
STANDARD AU-S	49.0

- SAMPLE TYPE: SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 29 1991 DATE REPORT MAILED: Aug 3/91.

RECEIVED
AUG - 7 1991

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

SAMPLE#	AU* ppb
4200E 8150N	4.6
4200E 8100N	5.7
4200E 8050N	3.0
4200E 8025N	2.3
4600E 9975N	9.1
4600E 9950N	10.7
4600E 9900N	14.4
4600E 9850N	2.3
4600E 9800N	7.2
4600E 9750N	4.0
4600E 9700N	5.4
4600E 9650N	4.1
4600E 9500N	3.1
4600E 9450N	33.1
4600E 9400N	3.5
4600E 9300N	2.8
4600E 9250N	5.1
4600E 9200N	3.8
4600E 9150N	4.0
4600E 9100N	3.4
4600E 9050N	2.6
4600E 9000N	3.7
4600E 8950N	1.1
4600E 8900N	1.4
4600E 8850N	5.8
4600E 8800N	2.2
4600E 8750N	3.3
4600E 8700N	3.5
4600E 8650N	1.8
4600E 8600N	.8
4600E 8550N	4.2
4600E 8500N	6.8
4600E 8450N	1.6
4600E 8400N	1.4
4600E 8350N	2.5
4600E 8300N	2.3
STANDARD AU-S	50.4

SAMPLE#	AU* ppb
4600E 8250N	5.6
4600E 8200N	2.4
4600E 8150N	1.6
4600E 8100N	4.5
4600E 8050N	2.0
5000E 9950N	2.4
5000E 9900N	5.8
5000E 9850N	2.6
5000E 9800N	4.0
5000E 9750N	3.2
5000E 9700N	3.0
5000E 9650N	4.1
5000E 9600N	1.7
5000E 9550N	7.0
5000E 9450N	3.3
5000E 9400N	2.7
5000E 9300N	2.8
5000E 9250N	2.9
5000E 9200N	17.3
5000E 9150N	4.7
5000E 9100N	3.3
5000E 9050N	3.7
5000E 9000N	4.1
5000E 8950N	9.8
5000E 8900N	7.3
5000E 8850N	3.2
5000E 8800N	4.6
5000E 8750N	4.3
5000E 8700N	3.2
5000E 8650N	2.3
5000E 8600N	7.3
5000E 8550N	12.7
5000E 8500N	7.0
5000E 8450N	6.0
5000E 8400N	1.2
5000E 8350N	8.3
STANDARD AU-S	50.1

SAMPLE#	AU* ppb
5000E 8300N	1.7
5000E 8250N	2.7
5000E 8200N	4.1
5000E 8150N	1.6
5000E 8100N	2.6
5000E 8050N	5.3
5000E 8025N	4.0
5100E 9500N	4.7
5100E 9450N	5.3
5100E 9400N	2.3
5100E 9350N	263.0
5100E 9300N	120.0
5400E 9950N	22.7
5400E 9900N	10.2
5400E 9850N	4.6
5400E 9800N	2.7
5400E 9750N	1.1
5400E 9700N	1.3
5400E 9650N	2.7
5400E 9600N	5.2
5400E 9550N	1.1
5400E 9500N	.2
5400E 9350N	1.0
5400E 9250N	3.4
5400E 9200N	1.8
5400E 9150N	2.1
5400E 9100N	2.4
5400E 9050N	2.0
5400E 9025N	1.7
5400E 9000N	1.7
5400E 8950N	3.8
5400E 8900N	2.1
5400E 8850N	11.2
5400E 8800N	16.0
5400E 8750N	10.6
5400E 8700N	3.7
STANDARD AU-S	48.0

SAMPLE#	AU* ppb
5400E 8650N	8.3
5400E 8600N	5.0
5400E 8550N	3.0
5400E 8500N	9.9
5400E 8450N	2.4
5400E 8400N	2.4
5400E 8350N	3.4
5400E 8300N	4.2
5400E 8250N	2.8
5400E 8200N	1.0
5400E 8150N	11.2
5400E 8100N	4.1
5400E 8050N	1.2
5800E 9950N	9.3
5800E 9900N	11.8
5800E 9850N	1.1
5800E 9800N	.8
5800E 9750N	1.6
5800E 9700N	.5
5800E 9650N	.4
5800E 9600N	1.8
5800E 9550N	2.6
5800E 9500N	2.6
5800E 9450N	57.5
5800E 9400N	6.5
5800E 9350N	17.6
5800E 9300N	9.9
5800E 9250N	13.6
5800E 9200N	2.3
5800E 9150N	3.4
5800E 9100N	1.5
5800E 9050N	1.3
5800E 9000N	8.3
5800E 8950N	2.4
5800E 8900N	4.2
5800E 8850N	2.6
STANDARD AU-S	46.2

SAMPLE#	AU* ppb
5800E 8800N	10.2
5800E 8750N	1.9
5800E 8700N	1.4
5800E 8650N	2.5
5800E 8600N	1.9
5800E 8550N	.2
5800E 8500N	.6
5800E 8450N	2.7
5800E 8400N	.5
5800E 8350N	.3
5800E 8300N	1.0
5800E 8250N	.6
5800E 8200N	.2
5800E 8150N	5.4
5800E 8100N	10.8
5800E 8050N	5.2
6200E 9950N	1.1
6200E 9900N	.6
6200E 9850N	.6
6200E 9800N	1.0
6200E 9750N	1.0
6200E 9700N	.5
6200E 9650N	.7
6200E 9600N	2.3
6200E 9550N	1.0
6200E 9500N	42.8
6200E 9450N	1.3
6200E 9400N	3.3
6200E 9350N	1.6
6200E 9300N	1.0
6200E 9250N	1.5
6200E 9200N	.4
6200E 9150N	1.3
6200E 9100N	1.2
6200E 9050N	4.2
6200E 9000N	1.0
STANDARD AU-S	45.6

SAMPLE#	AU* ppb
6200E 8950N	18.8
6200E 8900N	3.4
6200E 8850N	1.9
6200E 8800N	2.5
6200E 8750N	2.9
6200E 8700N	3.2
6200E 8650N	2.5
6200E 8600N	3.1
6200E 8550N	1.4
6200E 8500N	13.4
6200E 8450N	2.1
6200E 8400N	2.5
6200E 8350N	1.7
6200E 8300N	1.1
6200E 8250N	4.3
6200E 8200N	2.7
6200E 8150N	2.1
6200E 8100N	.9
6200E 8050N	1.2
6600E 9950N	15.5
6600E 9900N	2.4
6600E 9850N	3.4
6600E 9800N	1.0
6600E 9750N	1.2
6600E 9700N	.7
6600E 9650N	.2
6600E 9600N	1.6
6600E 9550N	1.1
6600E 9500N	1.0
6600E 9450N	.7
6600E 9350N	6.0
6600E 9300N	13.9
6600E 9250N	2.4
6600E 9200N	2.0
6600E 9150N	1.5
6600E 9100N	2.5
STANDARD AU-S	49.6

SAMPLE#	AU* ppb
6600E 9050N	7.2
6600E 9000N	3.0
6600E 8950N	1.8
6600E 8900N	3.6
6600E 8850N	1.6
6600E 8800N	1.6
6600E 8750N	2.4
6600E 8700N	3.7
6600E 8650N	3.5
6600E 8600N	6.5
6600E 8550N	47.3
6600E 8500N	1.6
6600E 8450N	1.2
6600E 8400N	2.3
6600E 8350N	1.1
6600E 8300N	1.1
6600E 8250N	77.5
6600E 8200N	20.4
6600E 8150N	2.0
6600E 8100N	1.3
7800E 10000N	4.1
7800E 9900N	3.1
7800E 9850N	9.4
7800E 9800N	4.5
7800E 9750N	6.2
7800E 9700N	2.4
7800E 9650N	3.4
7800E 9600N	1.2
7800E 9550N	240.0
7800E 9500N	8.4
7800E 9450N	4.8
7800E 9400N	3.0
7800E 9350N	2.3
7800E 9300N	.7
7800E 9250N	3.0
7800E 9200N	1.1
STANDARD AU-S	48.2

SAMPLE#	AU* ppb
7800E 9150N	3.5
7800E 9100N	30.8
7800E 9050N	4.2
7800E 9000N	7.3
7800E 8950N	69.1
7800E 8900N	10.3
7800E 8850N	1.7
7800E 8800N	1.4
7800E 8750N	11.2
7800E 8700N	2.2
7800E 8650N	2.2
7800E 8600N	3.4
7800E 8550N	8.3
7800E 8500N	2.3
7800E 8450N	5.2
7800E 8400N	2.7
7800E 8350N	3.3
7800E 8300N	.9
7800E 8250N	.4
7800E 8200N	.5
7800E 8150N	1.7
7800E 8100N	.6
7800E 8050N	.6
STANDARD AU-S	48.1

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 #10 FILE # 91-4783 Page 1
1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9

SAMPLE#	AU* ppb
7600E 9500N	2.3
RE 7600E 9300N	2.1
7600E 9450N	1.6
7600E 9400N	2.0
7600E 9350N	2.2
7600E 9300N	1.8
7600E 9250N	1.5
7600E 9200N	2.2
7600E 9150N	2.7
7600E 9100N	2.6
7600E 9050N	2.4
7600E 9000N	2.8
7600E 8950N	1.6
7600E 8900N	2.7
7600E 8850N	1.5
7600E 8800N	2.5
7600E 8750N	11.0
7600E 8700N	9.0
7600E 8650N	2.3
7600E 8600N	8.3
7600E 8550N	6.0
7600E 8500N	2.2
7600E 8450N	2.0
7600E 8400N	3.8
7600E 8350N	3.8
7600E 8300N	2.8
7600E 8250N	1.7
7600E 8200N	2.9
7600E 8150N	1.3
7600E 8100N	2.0
7600E 8050N	2.5
7600E 8000N	1.5
9000E 10000N	4.8
9000E 9950N N/S	-
9000E 9900N	7.1
9000E 9850N	4.2
9000E 9800N	4.2
STANDARD AU-S	46.7

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

DATE RECEIVED: SEP 27 1991 DATE REPORT MAILED: Oct 2/91

RECEIVED
OCT - 3 1991

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

SAMPLE#	AU* ppb
9000E 9750N	4.4
9000E 9700N	3.2
9000E 9650N	2.2
9000E 9600N	1.9
9000E 9550N	2.0
9000E 9500N	1.1
9000E 9450N	1.9
9000E 9400N	1.6
9000E 9350N	2.1
9000E 9300N	2.0
9000E 9250N	4.3
9000E 9200N	5.8
RE 9000E 8950N	6.4
9000E 9150N	2.1
9000E 9100N	2.3
9000E 9050N	2.4
9000E 9000N	4.9
9000E 8950N	5.9
9000E 8900N	2.5
9000E 8850N	12.0
9000E 8800N	1.8
9000E 8750N	2.7
9000E 8700N	2.0
9000E 8650N	3.0
9000E 8600N	4.2
9000E 8550N	9.3
9000E 8500N	6.1
9000E 8450N	11.2
9000E 8400N	11.8
9000E 8350N	1.0
9000E 8300N	7.1
9000E 8250N	11.3
9000E 8200N	2.3
9000E 8150N	6.2
9000E 8100N	62.0
9000E 8050N	6.3
9400E 10000N	4.6
STANDARD AU-S	50.1

Samples beginning 'RE' are duplicate samples.

SAMPLE#	AU* ppb
9400E 9950N	4.3
9400E 9800N	4.2
9400E 9750N	81.0
9400E 9700N	16.6
9400E 9650N	23.2
9400E 9600N	11.1
9400E 9550N	15.0
9400E 9500N	8.6
9400E 9450N	10.3
9400E 9400N	7.7
9400E 9350N	5.0
9400E 9300N	5.8
9400E 9250N	4.9
9400E 9200N	5.3
9400E 9150N	10.0
9400E 9100N	52.0
9400E 9050N	7.9
9400E 9000N	5.9
9400E 8950N	7.7
9400E 8900N	5.6
9400E 8850N	5.5
9400E 8800N	17.0
9400E 8750N	4.6
9400E 8700N	5.2
9400E 8650N	3.4
9400E 8600N	3.8
9400E 8550N	4.4
9400E 8500N	14.2
9400E 8450N	4.9
9400E 8400N	1.5
9400E 8350N	3.0
9400E 8300N	2.2
9400E 8250N	1.9
9400E 8200N	2.8
RE 9400E 8400N	1.2
9400E 8150N	3.5
9400E 8100N	1.7
9400E 8050N	3.2
STANDARD AU-S	45.3

Samples beginning 'RE' are duplicate samples.

SAMPLE#	AU* ppb
9600E 10000N	2.1
9600E 9950N	44.1
9600E 9900N	6.1
9600E 9850N	4.5
9600E 9800N	6.7
RE 9600E 9550N	5.3
9600E 9750N	3.7
9600E 9700N	2.9
9600E 9650N	8.7
9600E 9600N	2.7
9600E 9550N	4.1
9600E 9500N	2.9
9600E 9450N	7.3
9600E 9400N	6.1
9600E 9350N	5.4
9600E 9300N	5.9
9600E 9250N	5.3
9600E 9200N	1.9
9600E 9150N	4.4
9600E 9100N	8.5
9600E 9050N	3.5
9600E 9000N	2.1
9600E 8950N	1.4
9600E 8900N	2.4
9600E 8850N	2.0
9600E 8800N	1.8
9600E 8750N	1.0
9600E 8700N	18.6
9600E 8650N	3.4
9600E 8600N	1.8
9600E 8550N	9.2
9600E 8500N	48.3
9600E 8450N	12.2
9600E 8400N	8.8
9600E 8350N	1.8
9600E 8300N	5.0
9600E 8250N	3.7
STANDARD AU-S	45.3

Samples beginning 'RE' are duplicate samples.

SAMPLE#	AU* ppb
9600E 8200N	13.8
9600E 8150N	6.1
9600E 8100N	3.3
RE 9600E 8100N	1.9
9600E 8050N	2.3
9600E 8025N	3.7
9600E 8000N	2.3
STANDARD AU-S	47.4

Samples beginning 'RE' are duplicate samples.

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 11 FILE # 91-4920 Page 1
1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9

SAMPLE#	AU* ppb
4000E 12100N	2.4
4000E 12050N	1.4
4000E 12000N	1.8
4000E 11950N	3.3
4000E 11900N	2.6
4000E 11850N	2.6
4000E 11800N	5.5
4000E 11750N	1.2
4000E 11700N	1.2
4000E 11650N	4.0
4000E 11600N	12.2
4000E 11550N	.6
4000E 11500N	1.3
4000E 11450N	.3
4000E 11400N	.2
4000E 11350N	.7
4000E 11300N	.7
4000E 11250N	5.0
4000E 11200N	.2
4000E 11150N	1.2
4000E 11100N	1.1
4000E 11050N	1.5
4000E 11000N	.7
4000E 10950N	.2
4000E 10900N	.6
4000E 10850N	2.4
4000E 10800N	1.2
4000E 10750N	1.5
4000E 10700N	2.1
4000E 10650N	.2
4000E 10600N	2.8
4000E 10550N	.2
4000E 10500N	.2
RE 4000E 10700N	1.9
4000E 10450N	.7
4000E 10400N	.2
4000E 10350N	1.2
STANDARD AU-S	53.1

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

DATE RECEIVED: OCT 4 1991 DATE REPORT MAILED: Oct 9/91. RECEIVED OCT 10 1991

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

SAMPLE#	AU* ppb
4000E 10300N	4.9
4000E 10250N	1.0
4000E 10200N	.5
4000E 10150N	18.7
4000E 10100N	3.7
4000E 10000N	11.7
4000E 9950N	3.7
4000E 9900N	2.7
4000E 9850N	2.3
4000E 9800N	3.5
4000E 9750N	1.3
4000E 9700N	1.8
4000E 9650N	6.1
4000E 9600N	2.1
4000E 9550N	1.7
4000E 9500N	1.9
4000E 9450N	7.2
4000E 9400N	6.4
4000E 9350N	1.7
4000E 9300N	2.0
4000E 9250N	2.6
4000E 9200N	1.9
4400E 12100N	.8
4400E 12050N	.5
4400E 12000N	2.6
4400E 11950N	1.0
4400E 11900N	3.2
RE 4400E 12100N	1.4
4400E 11850N	1.3
4400E 11800N	1.7
4400E 11750N	1.3
4400E 11700N	5.3
4400E 11650N	.5
4400E 11600N	.6
4400E 11550N	1.1
4400E 11500N	7.5
4400E 11450N	1.0
STANDARD AU-S	47.0

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

SAMPLE#	AU* ppb
4400E 11400N	8.4
4400E 11350N	3.5
4400E 11300N	2.4
4400E 11250N	2.8
4400E 11200N	4.7
4400E 11150N	1.3
4400E 11100N	2.4
4400E 11050N	2.6
4400E 11000N	1.5
4400E 10950N	6.0
4400E 10900N	2.7
4400E 10850N	1.2
4400E 10800N	9.7
4400E 10750N	5.8
4400E 10700N	11.5
4400E 10650N	9.3
4400E 10600N	10.5
4400E 10550N	5.3
4400E 10500N	3.4
4400E 10450N	4.4
4400E 10400N	20.1
4400E 10350N	22.1
4400E 10300N	11.7
4400E 10250N	10.6
4400E 10200N	11.4
4400E 10150N	27.5
4400E 10100N	8.1
RE 4400E 10250N	6.8
4400E 10050N	5.3
4400E 10000N	2.0
4400E 9950N	4.2
4400E 9900N	10.1
4400E 9850N	4.2
4400E 9800N	2.7
4400E 9750N	7.4
4400E 9700N	4.4
4400E 9650N	27.4
STANDARD AU-S	50.2

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

SAMPLE#	AU* ppb
4400E 9600N	10.4
4400E 9550N	9.3
4400E 9500N	9.0
4400E 9450N	2.6
4400E 9400N	1.6
4400E 9350N	.8
4400E 9300N	1.1
4400E 9250N	.5
4400E 9200N	4.2
7300E 14100N	.6
7300E 13900N	.9
7300E 13850N	.6
7300E 13800N	.5
RE 7300E 13550N	.2
7300E 13750N	.3
7300E 13700N	.5
7300E 13650N	.5
7300E 13600N	.2
7300E 13550N	.2
7300E 13500N	.2
7300E 13450N	.6
7300E 13400N	.2
7300E 13350N	.2
7300E 13300N	.9
7300E 13250N	.2
7300E 13200N	.5
7300E 13150N	.3
7300E 13100N	.3
7300E 13000N	.9
7300E 12950N	.9
7300E 12900N	1.3
7300E 12850N	.2
7300E 12800N	.2
7300E 12750N	1.0
7300E 12700N	.8
7300E 12650N	.2
7300E 12600N	2.7
STANDARD AU-S	52.8

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

SAMPLE#	AU* ppb
7300E 12550N	2.1
7300E 12500N	7.7
7300E 12450N	5.8
7300E 12400N	1.3
7300E 12350N	3.4
7300E 12300N	2.0
7300E 12250N	3.8
7300E 12200N	4.5
7300E 12150N	13.9
7300E 12100N	1.6
7300E 12050N	.8
7300E 12000N	1.5
7400E 11950N	1.2
7400E 11850N	.9
7400E 11800N	2.8
7400E 11750N	1.6
7400E 11700N	7.6
7400E 11650N	1.5
7400E 11600N	7.4
7400E 11550N	1.5
7400E 11500N	2.8
7400E 11450N	.4
7400E 11400N	.9
7400E 11350N	1.6
7400E 11300N	4.5
7400E 11250N	1.1
7400E 11200N	1.0
7400E 11150N	.5
7400E 11100N	4.6
7400E 11050N	3.7
7400E 10950N	3.9
7400E 10900N	2.3
RE 7400E 11150N	.9
7400E 10850N	1.4
7400E 10800N	5.8
7400E 10750N	.3
7400E 10700N	.5
STANDARD AU-S	46.0

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

SAMPLE#	AU* ppb
7400E 10650N	1.5
7400E 10600N	1.1
7400E 10550N	1.3
7400E 10500N	1.3
7400E 10450N	2.1
7400E 10400N	1.7
7400E 10350N	6.4
7400E 10300N	1.8
7400E 10250N	1.6
7400E 10200N	1.0
7400E 10150N	1.7
7400E 10100N	5.0
7400E 10050N	1.1
7700E 13850N	.9
7700E 13800N	1.7
7700E 13750N	.8
7700E 13700N	1.7
7700E 13650N	5.1
7700E 13600N	.3
7700E 13550N	.6
7700E 13500N	4.1
7700E 13450N	5.8
7700E 13400N	2.5
7700E 13350N	2.1
7700E 13300N	2.1
7700E 13250N	1.7
7700E 13200N	24.7
7700E 13150N	.8
7700E 13050N	1.2
7700E 13000N	.3
7700E 12950N	1.3
RE 7700E 13200N	19.8
7700E 12900N	11.9
7700E 12850N	3.1
7700E 12800N	.2
7700E 12750N	1.5
7700E 12700N	3.6
STANDARD AU-S	45.8

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

SAMPLE#	AU* ppb
7700E 12650N	6.2
7700E 12600N	4.0
7700E 12550N	7.5
7700E 12500N	20.0
7700E 12450N	3.5
7700E 12400N	2.8
7700E 12350N	4.0
7700E 12300N	1.7
7700E 12250N	1.5
7700E 12200N	1.3
7700E 12150N	1.8
7700E 12100N	2.1
7700E 12050N	2.2
7700E 12000N	2.0
7700E 11950N	5.5
7800E 11950N	4.4
7800E 11925N	1.7
7800E 11900N	11.2
7800E 11850N	8.6
7800E 11800N	4.2
7800E 11750N	1.4
7800E 11700N	7.1
7800E 11650N	20.3
7800E 11600N	4.8
7800E 11550N	12.5
7800E 11500N	2.8
7800E 11450N	2.3
7800E 11400N	9.7
RE 7800E 11550N	14.1
7800E 11350N	7.3
7800E 11300N	3.2
7800E 11250N	4.5
7800E 11200N	22.1
7800E 11150N	4.7
7800E 11100N	2.6
7800E 11050N	4.2
7800E 11000N	2.0
STANDARD AU-S	46.8

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

SAMPLE#	AU* ppb
7800E 10950N	6.1
7800E 10900N	2.4
7800E 10850N	4.4
7800E 10800N	2.7
7800E 10750N	.7
7800E 10700N	1.7
7800E 10650N	2.8
7800E 10600N	1.9
7800E 10550N	2.6
7800E 10500N	4.3
7800E 10450N	.2
7800E 10400N	6.9
7800E 10350N	2.0
7800E 10300N	5.9
7800E 10250N	2.6
7800E 10200N	8.8
7800E 10150N	2.9
7800E 10100N	2.8
7800E 10050N	1.6
8000E 10000N	.3
RE 7800E 10200N	4.5
8000E 9950N	2.0
8000E 9900N	.8
8000E 9850N	2.6
8000E 9800N	2.5
8000E 9750N	21.8
8000E 9700N	6.9
8000E 9650N	2.2
8000E 9600N	3.0
8000E 9550N	2.9
8000E 9500N	.3
8000E 9450N	1.7
8000E 9400N	3.3
8000E 9350N	2.9
8000E 9300N	2.1
8000E 9250N	1.9
8000E 9200N	.4
STANDARD AU-S	45.7

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

SAMPLE#	AU* ppb
8000E 9150N	4.2
8000E 9100N	8.4
8000E 9050N	3.1
8000E 9000N	.4
8000E 8950N	.6
8000E 8900N	4.5
8000E 8850N	2.4
8000E 8800N	1.2
8000E 8750N	1.6
8000E 8700N	1.1
8000E 8650N	1.7
8000E 8550N	3.2
8000E 8450N	6.2
8000E 8400N	.6
8000E 8350N	.3
8000E 8300N	.6
8000E 8250N	.4
RE 8100E 13700N	1.8
8000E 8200N	.7
8000E 8150N	3.2
8000E 8100N	1.0
8000E 8050N	.2
8100E 14100N	1.6
8100E 14100NA	.7
8100E 13900N	1.4
8100E 13850N	3.2
8100E 13800N	3.0
8100E 13750N	1.1
8100E 13700N	.9
8100E 13650N	.6
8100E 13600N	.8
8100E 13550N	.9
8100E 13500N	15.9
8100E 13450N	5.3
8100E 13400N	4.6
8100E 13350N	3.7
8100E 13300N	3.7
STANDARD AU-S	49.9

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

SAMPLE#	AU* ppb
8100E 13250N	3.1
8100E 13050N	2.9
8100E 13000N	1.4
8100E 12950N	1.1
8100E 12900N	.6
8100E 12850N	2.3
8100E 12800N	.6
8100E 12750N	1.0
8100E 12700N	3.0
8100E 12650N	3.0
8100E 12600N	2.2
8100E 12550N	2.5
8100E 12500N	.8
8100E 12450N	2.8
8100E 12400N	3.9
8100E 12350N	5.3
8100E 12300N	5.9
8100E 12250N	1.8
8100E 12200N	8.0
8100E 12150N	3.8
8100E 12100N	44.0
8100E 12050N	2.7
8100E 12000N	1.5
8200E 11950N	31.7
8200E 11850N	11.3
RE 8100E 12100N	32.0
8200E 11800N	40.5
8200E 11750N	9.8
8200E 11700N	4.0
8200E 11650N	.9
8200E 11600N	3.7
8200E 11550N	3.2
8200E 11500N	2.4
8200E 11450N	2.4
8200E 11400N	2.3
8200E 11350N	8.6
8200E 11300N	4.3
STANDARD AU-S	45.4

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

SAMPLE#	AU* ppb
8200E 11250N	5.9
8200E 11000N	4.1
8200E 10950N	6.6
8200E 10900N	2.1
8200E 10850N	4.1
8200E 10800N	2.1
RE 8200E 10550N	1.6
8200E 10750N	1.0
8200E 10700N	.5
8200E 10650N	1.2
8200E 10600N	1.7
8200E 10550N	1.7
8200E 10500N	1.5
8200E 10450N	1.2
8200E 10400N	1.1
8200E 10350N	2.8
8200E 10300N	10.7
8200E 10250N	2.3
8200E 10200N	1.7
8200E 10150N	1.2
8200E 10100N	.6
8200E 10050N	2.2
8200E 10000N	.6
8200E 9950N	5.5
8200E 9900N	2.1
8200E 9850N	1.3
8200E 9800N	1.1
8200E 9750N	2.6
8200E 9700N	.4
8200E 9650N	.4
8200E 9600N	.2
8200E 9550N	.3
8200E 9500N	1.7
8200E 9450N	.7
8200E 9400N	5.5
8200E 9350N	24.6
8200E 9300N	6.1
STANDARD AU-S	52.0

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

SAMPLE#	AU* ppb
8200E 9250N	2.1
8200E 9200N	1.8
8200E 9150N	1.7
8200E 9100N	4.5
8200E 9050N	20.7
8200E 9000N	9.0
8200E 8950N	36.3
8200E 8900N	9.2
8200E 8850N	3.3
8200E 8800N	4.1
8200E 8750N	19.9
8200E 8700N	7.5
8200E 8650N	10.7
8200E 8600N	5.5
8200E 8550N	25.0
8200E 8500N	27.2
8200E 8450N	22.3
8200E 8400N	.8
8200E 8350N	3.6
8200E 8300N	2.1
8200E 8250N	3.1
8200E 8200N	3.1
8200E 8150N	1.7
8200E 8100N	17.8
8200E 8020N	56.2
8600E 11950N	11.5
8600E 11900N	3.5
8600E 11850N	7.7
8600E 11800N	1.5
8600E 11750N	2.1
8600E 11700N	2.2
RE 8600E 11900N	2.7
8600E 11650N	1.9
8600E 11600N	3.3
8600E 11550N	2.6
8600E 11500N	2.1
8600E 11450N	5.0
STANDARD AU-S	51.7

SAMPLE TYPE: SOIL. Samples beginning 'RE' are dupli

SAMPLE#	AU* ppb
8600E 11400N	5.1
8600E 11350N	2.4
8600E 11300N	2.0
8600E 11250N	2.5
8600E 11200N	3.2
8600E 11150N	2.0
8600E 11100N	3.2
8600E 11050N	1.7
RE 8600E 10850N	1.4
8600E 11000N	1.4
8600E 10950N	1.2
8600E 10900N	1.8
8600E 10850N	2.4
8600E 10800N	2.6
8600E 10750N	2.1
8600E 10700N	2.0
8600E 10650N	8.1
8600E 10250N	3.4
8600E 10200N	2.4
8600E 10150N	2.2
8600E 10100N	2.0
8600E 10050N	2.1
8600E 10000N	.6
8600E 9950N	3.2
8600E 9900N	4.5
8600E 9850N	2.3
8600E 9800N	4.5
8600E 9750N	1.3
8600E 9700N	4.4
8600E 9650N	2.2
8600E 9600N	1.2
8600E 9550N	2.4
8600E 9500N	14.0
8600E 9450N	5.9
8600E 9400N	6.7
8600E 9350N	1.8
8600E 9300N	1.2
STANDARD AU-S	52.0

SAMPLE TYPE: SOIL. Samples beginning 'RE' are dupli

SAMPLE#	AU* ppb
8600E 9250N	3.1
8600E 9200N	2.4
8600E 9150N	1.2
RE 8600E 8900N	4.4
8600E 9100N	10.2
8600E 9050N	3.3
8600E 9000N	1.4
8600E 8950N	1.1
8600E 8900N	5.1
8600E 8850N	4.0
8600E 8800N	3.6
8600E 8750N	1.1
8600E 8700N	24.4
8600E 8650N	27.8
8600E 8600N	10.2
8600E 8550N	10.5
8600E 8500N	37.8
8600E 8400N	9.4
8600E 8350N	4.0
8600E 8300N	3.9
8600E 8250N	5.6
8600E 8200N	7.0
8600E 8150N	2.5
8600E 8100N	34.1
8600E 8000N	86.0
9000E 11950N	8.8
9000E 11900N	5.4
9000E 11850N	3.7
9000E 11800N	5.6
9000E 11750N	2.2
9000E 11700N	4.3
9000E 11650N	4.0
9000E 11600N	4.3
9000E 11550N	1.1
9000E 11500N	4.8
9000E 11450N	4.6
9000E 11400N	4.0
STANDARD AU-S	47.0

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

SAMPLE#	AU* ppb
9000E 11350N	4.4
9000E 11300N	24.3
9000E 11250N	22.7
9000E 11200N	14.5
9000E 11150N	9.8
9000E 11100N	6.5
9000E 11050N	5.8
9000E 11000N	6.3
9000E 10950N	5.6
9000E 10900N	3.4
9000E 10850N	3.5
9000E 10800N	3.3
9000E 10750N	2.6
9000E 10700N	3.6
9000E 10650N	2.6
9000E 10600N	3.4
9000E 10550N	3.9
9000E 10500N	2.5
9000E 10450N	2.5
9000E 10400N	2.8
9000E 10350N	3.1
RE 9000E 10550N	5.3
9000E 10300N	4.6
9000E 10100N	3.8
9000E 10050N	2.9
9400E 11950N	1.8
9400E 11850N	1.2
9400E 11800N	2.2
9400E 11750N	4.1
9400E 11700N	2.2
9400E 11650N	2.4
9400E 11600N	2.6
9400E 11550N	8.8
9400E 11500N	3.5
9400E 11450N	2.7
9400E 11400N	2.1
9400E 11350N	3.0
STANDARD AU-S	46.2

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

SAMPLE#	AU* ppb
9400E 11300N	3.2
9400E 11250N	3.3
9400E 11200N	19.6
9400E 11150N	8.2
9400E 11100N	1.9
9400E 11050N	2.3
9400E 11000N	14.1
9400E 10950N	3.8
9400E 10900N	3.7
9400E 10850N	5.3
9400E 10800N	4.6
9400E 10750N	2.0
9400E 10700N	10.8
9400E 10650N	6.7
9400E 10600N	2.9
9400E 10550N	3.1
9400E 10500N	3.1
9400E 10450N	1.7
9400E 10400N	1.7
RE 9400E 10550N	2.6
9400E 10350N	2.5
9400E 10300N	3.9
9400E 10250N	3.2
9400E 10200N	9.7
9400E 10150N	3.5
9400E 10100N	3.3
9400E 10050N	4.3
9600E 11950N	9.7
9600E 11850N	10.1
9600E 11800N	2.9
9600E 11750N	2.8
9600E 11700N	1.6
9600E 11650N	8.6
9600E 11600N	1.3
9600E 11550N	1.8
9600E 11500N	18.1
9600E 11450N	1.9
STANDARD AU-S	47.0

SAMPLE TYPE: SOIL. Samples beginning 'RE' are dupli

SAMPLE#	AU* ppb
9600E 11400N	9.9
9600E 11350N	2.7
9600E 11300N	3.3
9600E 11250N	4.1
9600E 11200N	4.2
9600E 11150N	3.9
9600E 11100N	3.4
9600E 11050N	19.1
9600E 11000N	3.8
9600E 10950N	5.0
9600E 10900N	35.7
9600E 10850N	12.3
9600E 10800N	4.8
9600E 10750N	3.4
9600E 10700N	8.1
9600E 10650N	3.5
9600E 10600N	9.6
9600E 10550N	4.1
9600E 10400N	4.1
9600E 10350N	2.2
9600E 10300N	2.7
9600E 10250N	7.3
9600E 10200N	5.2
9600E 10150N	3.5
9600E 10100N	3.8
9600E 10050N	6.6
10800E 8000N	57.5
10800E 7970N	14.3
10800E 7950N	12.7
RE 9600E 10700N	9.6
10800E 7900N	15.1
10800E 7850N	14.4
10800E 7800N	8.0
10800E 7750N	4.5
10800E 7700N	4.8
10800E 7650N	3.4
10800E 7600N	3.6
STANDARD AU-S	45.1

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

SAMPLE#	AU* ppb
10800E 7550N	6.5
10800E 7500N	7.5
10800E 7450N	8.8
10800E 7400N	19.7
10800E 7350N	9.2
10800E 7300N	4.3
10800E 7250N	40.2
10800E 7200N	5.2
10800E 7150N	3.3
10800E 7100N	5.8
10800E 7050N	2.6
10800E 7000N	3.1
10800E 6950N	2.7
10800E 6900N	7.8
10800E 6850N	2.5
10800E 6800N	3.3
10800E 6750N	5.7
10800E 6700N	10.7
10800E 6650N	4.8
10800E 6600N	7.5
10800E 6550N	2.0
RE 10800E 6750N	4.3
10800E 6500N	5.4
10800E 6450N	4.0
10800E 6400N	5.6
10800E 6350N	3.7
10800E 6300N	2.7
10800E 6250N	10.4
10800E 6200N	3.9
10800E 6150N	9.1
10800E 6100N	8.9
10800E 6050N	4.1
10800E 6000N	7.1
11200E 8000N	3.1
11200E 7970N	3.9
11200E 7950N	68.3
11200E 7900N	7.2
STANDARD AU-S	46.2

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

SAMPLE#	AU* ppb
11200E 7850N	3.7
11200E 7800N	4.8
11200E 7750N	4.4
11200E 7700N	1.6
11200E 7650N	1.6
11200E 7600N	1.9
11200E 7550N	1.1
RE 11200E 7350N	.8
11200E 7500N	1.2
11200E 7450N	.7
11200E 7400N	.6
11200E 7350N	1.5
11200E 7300N	1.4
11200E 7250N	1.9
11200E 7200N	1.2
11200E 7150N	2.8
11200E 7100N	1.7
11200E 7050N	6.0
11200E 7000N	5.0
11200E 6950N	1.8
11200E 6900N	.9
11200E 6850N	.2
11200E 6800N	4.2
11200E 6750N	.2
11200E 6700N	2.4
11200E 6650N	.8
11200E 6600N	.2
11200E 6550N	12.4
11200E 6500N	.2
11200E 6450N	.4
11200E 6400N	2.1
11200E 6350N	.2
11200E 6300N	13.9
11200E 6250N	8.0
11200E 6200N	5.9
11200E 6150N	5.5
11200E 6100N	28.7
STANDARD AU-S	46.0

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

SAMPLE#	AU* ppb
11200E 6050N	6.2
11200E 6000N	10.7
11600E 8000N	2.8
11600E 7980N	3.6
11600E 7975N	5.9
11600E 7950N	2.8
11600E 7900N	1.3
11600E 7850N	2.8
11600E 7800N	1.9
11600E 7750N	16.0
11600E 7700N	5.8
11600E 7650N	2.5
11600E 7600N	6.3
11600E 7500N	3.2
11600E 7450N	8.4
11600E 7400N	4.0
11600E 7350N	3.7
11600E 7300N	3.6
11600E 7250N	2.1
11600E 7200N	18.5
11600E 7150N	2.2
11600E 7100N	2.3
11600E 7050N	30.6
11600E 7000N	5.0
RE 11600E 7200N	17.2
11600E 6950N	3.4
11600E 6900N	1.8
11600E 6850N	1.1
11600E 6800N	3.5
11600E 6750N	1.4
11600E 6700N	1.7
11600E 6650N	3.1
11600E 6600N	7.0
11600E 6550N	4.4
11600E 6500N	1.0
11600E 6450N	3.3
11600E 6400N	.7
STANDARD AU-S	48.1

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

SAMPLE#	AU* ppb
11600E 6350N	14.0
11600E 6300N	2.6
11600E 6250N	12.9
11600E 6200N	3.6
11600E 6150N	11.0
RE 11600E 6200N	5.1
11600E 6100N	2.8
11600E 6050N	7.4
11600E 6000N	2.3
STANDARD AU-S	47.0

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

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 #12 FILE # 91-5032 Page 1
1980 - 1055 W. Hastings S, Vancouver BC V6E 2E9 Attn: MARK STEINER

SAMPLE#	AU* ppb
4950E 9250N	5.2
4950E 9200N	5.7
4950E 9150N	5.5
RE 5900E 9550N	5.8
5150E 9400N	2.5
5150E 9350N	7.7
5150E 9300N	12.8
5150E 9250N	3.6
5150E 9200N	5.4
5150E 9150N	7.9
5200E 9350N	4.4
5200E 9300N	28.0
5200E 9250N	10.6
5200E 9200N	15.6
5200E 9150N	3.2
5700E 9550N	1.2
5700E 9500N	1.3
5700E 9450N	8.7
5700E 9400N	.8
5700E 9350N	.9
5750E 9550N	7.1
5750E 9500N	2.0
5750E 9450N	2.8
5750E 9400N	6.4
5750E 9350N	2.3
5850E 9550N	.2
5850E 9500N	1.5
5850E 9450N	2.7
5850E 9400N	1.9
5850E 9350N	2.4
5900E 9550N	11.6
5900E 9500N	1.0
5900E 9450N	2.7
5900E 9400N	2.4
5900E 9350N	3.2
7700E 9650N	13.5
7700E 9600N	1.5
STANDARD G-1	.3
STANDARD C/AU-S	51.0

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

DATE RECEIVED: OCT 11 1991 DATE REPORT MAILED: Oct 22/91.

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

SAMPLE#	AU* ppb
7700E 9550N	5.6
7700E 9450N	2.5
7750E 9650N	6.1
7750E 9600N	1.8
7750E 9550N	1.8
7750E 9500N	3.5
7750E 9450N	2.0
7850E 9650N	1.2
7850E 9600N	4.3
7850E 9550N	1.0
7850E 9500N	1.5
7850E 9450N	1.5
7900E 9650N	1.4
RE 8000E 7950N	1.8
7900E 9600N	1.8
7900E 9550N	9.2
7900E 9500N	1.1
7900E 9450N	1.1
8000E 7950N	.4
8000E 7900N	19.1
8000E 7850N	1.0
8000E 7800N	69.2
8000E 7750N	6.7
8000E 7700N	1.0
8000E 7650N	.2
8000E 7600N	8.1
8000E 7550N	4.3
8000E 7500N	1.9
8000E 7450N	2.8
8000E 7400N	3.3
8000E 7350N	2.2
8000E 7300N	2.5
8000E 7250N	2.8
8000E 7200N	3.0
8000E 7150N	1.8
8000E 7100N	3.5
8000E 7050N	4.3
STANDARD G-1	.6
STANDARD AU-S	48.1

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

SAMPLE#	AU* ppb
8000E 7000N	3.6
8400E 7970N	7.1
8400E 7950N	4.5
8400E 7900N	4.8
8400E 7850N	4.6
8400E 7800N	23.2
RE 8400E 7600N	4.8
8400E 7750N	29.0
8400E 7700N	9.8
8400E 7650N	9.5
8400E 7600N	3.6
8400E 7550N	2.7
8400E 7500N	3.7
8400E 7450N	6.9
8400E 7400N	2.5
8400E 7350N	1.8
8400E 7300N	1.9
8400E 7250N	2.0
8400E 7200N	4.5
8400E 7150N	3.3
8400E 7100N	.9
8400E 7050N	1.9
8400E 7000N	2.8
8800E 7950N	8.4
8800E 7900N	5.9
8800E 7850N	2.1
8800E 7800N	4.1
8800E 7750N	4.3
8800E 7700N	1.4
8800E 7650N	3.8
8800E 7600N	1.3
8800E 7550N	2.4
8800E 7500N	2.5
8800E 7450N	4.6
8800E 7400N	16.7
8800E 7350N	4.8
8800E 7300N	9.9
STANDARD G-1	.2
STANDARD AU-S	47.3

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

SAMPLE#	AU* ppb
8800E 7250N	11.3
8800E 7200N	7.9
8800E 7150N	6.5
8800E 7100N	5.4
8800E 7050N	19.2
8800E 7025N	4.9
8800E 7015N	6.8
9200E 7975N	5.4
9200E 7950N	5.4
9200E 7900N	1.2
9200E 7850N	3.5
9200E 7800N	3.4
9200E 7750N	2.1
9200E 7700N	2.1
9200E 7650N	22.0
RE 9200E 7400N	11.7
9200E 7600N	7.9
9200E 7550N	4.9
9200E 7500N	38.0
9200E 7450N	7.8
9200E 7400N	20.0
9200E 7350N	7.5
9200E 7300N	6.1
9200E 7250N	11.2
9200E 7200N	15.8
9200E 7150N	11.1
9200E 7100N	6.5
9200E 7050N	4.9
10400E 13200N	2.5
10400E 13150N	9.7
10400E 13100N	6.7
10400E 13050N	48.8
10400E 13000N	8.5
10400E 12950N	4.8
10400E 12900N	1.7
10450E 13200N	1.8
10450E 13150N	3.4
STANDARD G-1	.3
STANDARD AU-S	46.7

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

SAMPLE#	AU* ppb
10450E 13100N	32.8
10450E 13050N	31.4
10450E 13000N	23.0
10450E 12950N	8.9
10450E 12900N	1.8
10550E 13200N	23.1
10550E 13150N	14.0
10550E 13100N	62.4
10550E 13050N	14.8
10550E 13000N	12.8
10550E 12950N	14.5
10550E 12900N	27.3
RE 10600E 13000N	9.8
10600E 13200N	1.2
10600E 13150N	2.6
10600E 13100N	4.3
10600E 13050N	9.5
10600E 13000N	7.4
10600E 12950N	4.9
10600E 12900N	1.0
10800E 5800N	2.2
10800E 5750N	4.7
10800E 5700N	3.7
10800E 5650N	6.2
10800E 5600N	3.7
10800E 5550N	2.3
10800E 5500N	25.2
10800E 5450N	3.0
10800E 5400N	4.0
10800E 5350N	3.4
10800E 5300N	10.4
10800E 5250N	5.6
10800E 5200N	35.2
10800E 5150N	12.9
10800E 5100N	2.5
10800E 5050N	20.3
10800E 5000N	3.9
STANDARD G-1	.5
STANDARD AU-S	53.3

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

SAMPLE#	AU* ppb
10800E 4950N	7.5
10800E 4900N	4.3
10800E 4850N	3.8
10800E 4800N	4.2
10800E 4750N	2.5
10800E 4700N	1.0
10800E 4650N	3.6
10800E 4600N	5.7
10800E 4550N	2.5
10800E 4500N	1.9
10800E 4450N	2.1
10800E 4400N	15.2
10800E 4350N	3.1
10800E 4300N	4.4
10800E 4250N	2.1
10800E 4200N	13.0
10800E 4150N	4.6
10800E 4100N	2.9
10800E 4050N	5.8
10800E 4000N	4.9
11200E 13600N	5.7
11200E 13550N	8.3
11200E 13500N	1.8
11200E 13450N	1.4
11200E 13400N	3.5
11200E 13350N	5.3
11200E 13300N	7.2
11200E 13250N	17.1
11200E 13200N	5.0
11200E 13150N	8.4
11200E 13100N	3.4
11200E 13050N	3.0
RE 10800E 4050N	8.9
11200E 13000N	4.4
11200E 12950N	3.2
11200E 12900N	10.7
11200E 12850N	10.0
STANDARD G-1	.2
STANDARD AU-S	51.1

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

SAMPLE#	AU* ppb
11200E 5950N	4.9
11200E 5900N	33.2
11200E 5850N	6.4
11200E 5800N	1.6
11200E 5750N	12.3
11200E 5700N	17.7
11200E 5650N	5.5
11200E 5600N	5.9
11200E 5550N	11.5
11200E 5500N	2.0
11200E 5450N	3.3
11200E 5400N	2.5
11200E 5350N	8.6
11200E 5300N	6.1
11200E 5250N	4.9
RE 11200E 5000N	1.2
11200E 5200N	3.2
11200E 5150N	2.2
11200E 5100N	.5
11200E 5050N	6.1
11200E 5000N	2.3
11200E 4950N	.8
11200E 4900N	3.7
11200E 4850N	6.3
11200E 4800N	5.5
11200E 4750N	17.2
11200E 4700N	2.7
11200E 4650N	.8
11200E 4600N	4.6
11200E 4550N	4.0
11200E 4500N	3.5
11200E 4450N	4.3
11200E 4400N	1.9
11200E 4350N	2.2
11200E 4300N	2.7
11200E 4250N	75.0
11200E 4000N	16.2
STANDARD G-1	.3
STANDARD AU-S	51.1

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

SAMPLE#	AU* ppb
11250E 13600N	15.0
11250E 13550N	17.1
11250E 13500N	3.2
11250E 13450N	2.4
11250E 13400N	1.9
11250E 13350N	7.2
11250E 13300N	4.8
11250E 13250N	19.4
11250E 13200N	1.4
11250E 13150N	1.1
11250E 13100N	1.5
11250E 13050N	17.1
11250E 13000N	1.5
11250E 12950N	2.5
11250E 12900N	4.5
11250E 12850N	21.4
11250E 12800N	8.4
11350E 13600N	2.4
11350E 13550N	3.0
11350E 13500N	2.4
11350E 13450N	2.0
11350E 13400N	.6
11350E 13350N	4.0
11350E 13300N	9.5
11350E 13250N	34.1
11350E 13200N	25.4
11350E 13150N	23.1
RE 11350E 13300N	11.1
11350E 13100N	17.7
11350E 13050N	1.7
11350E 13000N	4.7
11350E 12950N	15.0
11350E 12900N	4.5
11350E 12850N	4.2
11350E 12800N	1.9
11400E 13600N	2.9
11400E 13550N	1.6
STANDARD G-1	.4
STANDARD AU-S	51.2

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

SAMPLE#	AU* ppb
11400E 13500N	6.6
11400E 13450N	3.0
11400E 13400N	4.7
11400E 13350N	2.1
11400E 13300N	15.6
RE 11400E 13050N	10.4
11400E 13250N	16.0
11400E 13200N	14.0
11400E 13150N	6.6
11400E 13100N	2.7
11400E 13050N	12.9
11400E 13000N	8.2
11400E 12950N	2.7
11400E 12900N	1.6
11400E 12850N	14.2
11400E 12800N	5.6
11600E 5700N	12.0
11600E 5650N	.8
11600E 5600N	2.2
11600E 5550N	80.0
11600E 5500N	9.6
11600E 5450N	6.9
11600E 5400N	6.3
11600E 5350N	5.2
11600E 5300N	5.8
11600E 5250N	5.4
11600E 5200N	4.7
11600E 5150N	5.4
11600E 5100N	3.9
11600E 5050N	4.2
11600E 5000N	16.9
11600E 4950N	10.0
11600E 4900N	3.3
11600E 4850N	9.8
11600E 4800N	7.3
11600E 4750N	2.6
11600E 4700N	3.4
STANDARD G-1	.2
STANDARD AU-S	47.8

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

SAMPLE#	AU* ppb
11600E 4650N	1.2
11600E 4600N	.9
11600E 4550N	.7
11600E 4500N	1.5
11600E 4450N	1.2
RE 11600E 4250N	6.1
11600E 4400N	1.2
11600E 4350N	2.1
11600E 4300N	1.7
11600E 4250N	3.4
11600E 4150N	4.1
11600E 4100N	1.0
11600E 4050N	1.4
STANDARD G-1	.3
STANDARD AU-S	52.3

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #7 File # 91-3639

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

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
PEN91-R1	1	4	42	21	1.0	5	4	228	1.62	2	5	ND	8	24	.2	2	2	1	.18	.035	15	6	.04	168	.01	2	.20	.05	.10	1	480
PEN91-R2	2	16	14	45	.1	6	7	1261	2.97	2	5	ND	5	43	.4	2	3	7	1.08	.041	12	8	.32	102	.01	3	.28	.04	.12	1	77
PEN91-R3	11	40	4	42	.2	5	8	3045	5.42	2	5	ND	1	19	.2	2	2	70	8.19	.017	2	7	.17	23	.07	2	1.41	.01	.02	274	30
PEN91-R4	14	68	12	48	.3	8	5	207	1.92	165	5	ND	2	6	.2	2	2	5	.18	.020	8	8	.10	27	.01	2	.32	.05	.07	7	94
PEN91-R5	19	42	8	439	.1	13	4	121	3.58	462	8	ND	1	133	3.2	5	2	58	.05	.052	2	13	.03	39	.01	6	.21	.02	.11	2	17
RE PEN91-R2	2	13	15	49	.7	5	7	1267	2.98	4	5	ND	5	44	.2	2	2	8	1.08	.042	13	6	.32	104	.01	2	.27	.04	.12	2	65
PEN91-R6	2	50	3	100	1.2	11	14	907	4.89	146	5	ND	1	194	.2	2	2	121	1.65	.079	3	24	1.67	129	.20	5	4.10	.35	.67	2	49
PEN91-R7	11	4	62	14	3.0	8	1	124	.62	3	5	ND	1	6	.2	2	2	3	.07	.005	2	8	.02	52	.01	3	.13	.01	.06	4	34
PEN91-R8	1	43	604	6283	5.0	5	16	442	4.70	31262	5	2	2	21	48.6	61	4	14	.20	.025	6	6	.07	55	.01	6	.56	.02	.10	1	1600
PEN91-R9	3	40	18	79	3.2	8	11	94	6.59	61033	5	5	2	18	.3	112	2	7	.09	.019	4	7	.03	32	.01	2	.37	.02	.08	1	3770
PEN91-R10	3	15	4	19	.1	8	2	102	.87	118	5	ND	1	10	.3	2	17	4	.03	.004	2	11	.02	7	.01	2	.06	.01	.02	3	1310
PEN91-R11	7	67	16	9879	1.9	42	19	249	7.30	17904	5	2	2	41	154.0	9	32	31	.11	.014	9	14	.04	10	.02	2	.30	.01	.04	1	1690
STANDARD C/AU-R	18	58	37	132	7.3	68	33	1027	3.94	44	19	7	37	52	18.2	15	19	56	.48	.090	37	58	.88	174	.09	33	1.87	.06	.15	13	450

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. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 20 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: AUG 19 1991 **DATE REPORT MAILED:** Aug 23/91 **SIGNED BY** D. Toye ,D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

RECEIVED
AUG 2 3 1991

GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #8 File # 91-3907 Page 1

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

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
PEN91-R12	3	30	2	27	.1	11	6	258	1.55	2	5	ND	1	6	.2	2	2	37	.15	.023	4	13	.31	107	.10	3	.58	.03	.30	1	15
PEN91-R13	3	12	7	47	.7	8	5	324	2.30	2	5	ND	1	5	.2	2	6	6	.07	.015	11	8	.34	39	.06	4	.66	.05	.37	1	53
PEN91-R14	36	555	4	34	4.6	14	7	570	1.76	2	5	ND	1	26	.2	2	16	17	.70	.017	3	17	.52	127	.02	2	.72	.02	.18	13	45
PEN91-R15	18	19	22	29	1.6	13	2	104	1.47	69	5	ND	1	16	.2	2	2	5	.03	.019	2	11	.06	164	.01	4	.17	.01	.07	1	950
PEN91-R16	62	16	38	21	1.1	12	1	56	1.71	5	5	ND	1	20	.2	2	2	17	.02	.016	3	12	.01	141	.01	4	.16	.02	.10	1	13
RE PEN91-R12	4	27	4	20	.1	11	5	249	1.48	5	5	ND	1	6	.2	2	2	37	.14	.023	3	13	.30	111	.10	2	.56	.02	.30	1	14

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. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 ROCK P2 SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 20 GM SAMPLE.
Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: AUG 26 1991 **DATE REPORT MAILED:** Sept 5/91. **SIGNED BY** ..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

RECEIVED
SEP - 6 1991

SAMPLE#	AU* ppb (10gm)
9700E 13250N	4.7

GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PROSPECTING #9 File # 91-4060 Page 1

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

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
PEN91-R17	3	65	2	20	.1	11	7	218	1.63	13	5	ND	1	14	.2	2	3	11	.22	.028	3	9	.15	44	.01	3	.41	.02	.08	1	400

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. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 20 GM SAMPLE.

DATE RECEIVED: SEP 3 1991 **DATE REPORT MAILED:** Sept 9/91. **SIGNED BY** ..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au* ppb (20gm)
Q26-R13	19	6	25	.1	3	14
WD-R1	53	13	437	.3	4	6
PEN91-R18	13	2	15	.1	5	1
PEN91-R19	117	6	61	1.0	1298	7
PEN91-R20	23	3	23	.1	18	5
RE PEN91-R19	116	5	60	1.0	1273	8

Samples beginning 'RE' are duplicate samples.

GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN File # 91-4790

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

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** oz/t
PEN91-R21	7	29	8	10	1.6	6	1	103	1.53	4	5	ND	3	7	.2	2	3	11	.08	.022	8	5	.06	36	.06	2	.25	.06	.09	1	.004
PEN91-R22	27	19	15	8	5.7	3	1	57	1.11	4	5	3	2	2	.2	2	26	3	.04	.006	2	35	.03	6	.01	5	.10	.01	.02	422	.075
PEN91-R23	6	12	10	5	1.0	7	1	45	.47	4	5	ND	2	2	.2	2	3	1	.01	.004	5	9	.01	12	.01	2	.09	.01	.04	17	.001
PEN91-R24	8	14	11	9	1.1	15	1	69	.76	6	5	ND	1	2	.2	2	2	1	.01	.005	4	14	.01	15	.01	2	.11	.02	.05	3	.001
RE PEN91-R22	27	20	15	7	6.8	4	1	66	1.16	4	5	ND	1	3	.2	2	32	2	.04	.006	2	34	.03	5	.01	5	.10	.01	.03	405	.085

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. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK AU BY FIRE ASSAY FROM 1 A.T. SAMPLE Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 27 1991 **DATE REPORT MAILED:** Oct 2/91. **SIGNED BY** C. Leong .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

RECEIVED
OCT - 3 1991

GEOCHEMICAL ANALYSIS CERTIFICATE

Cordilleran Engineering Ltd. PROJECT PEN #11 File # 91-4922

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

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
PEN91-R25	4	12	7	2	2.6	6	1	39	.56	5	5	ND	1	3	.2	2	8	1	.01	.005	3	8	.01	35	.01	3	.14	.02	.09	2	52
PEN91-R26	10	37	16	6	3.9	5	1	42	1.44	5	5	ND	1	8	.2	2	71	5	.01	.006	2	8	.05	53	.01	2	.21	.02	.06	2	260
RE PEN91-R27	8	9	2	10	.6	7	1	76	1.38	3	5	ND	1	8	.2	2	2	19	.02	.015	2	38	.19	26	.02	2	.40	.09	.05	2	150
PEN91-R27	8	8	3	11	.5	8	1	78	1.36	2	5	ND	1	8	.2	2	2	18	.02	.015	2	39	.19	25	.02	2	.40	.09	.05	2	150
PEN91-R28	2	8	14	9	.1	6	1	64	.58	6	5	ND	1	4	.2	2	2	3	.01	.003	2	11	.01	10	.01	2	.15	.01	.03	2	4
PEN91-R29	15	12	4	29	.1	8	1	19	1.78	110	5	ND	1	62	.2	2	2	14	.01	.024	2	9	.02	31	.01	2	.24	.02	.12	3	2
PEN91-R30	4	10	32	2	15.1	7	1	31	.47	5	5	3	1	2	.2	2	9	2	.01	.002	2	35	.01	10	.01	2	.01	.01	.01	1	5950
PEN91-R31	2	16	130	60	.6	8	2	240	1.29	17	5	ND	1	10	.8	2	2	6	.01	.014	2	11	.01	30	.01	2	.14	.01	.08	1	10
STANDARD C/AU-R	19	64	40	133	7.3	72	34	1042	3.98	42	18	6	40	53	17.4	15	21	59	.48	.090	39	57	.88	178	.09	33	1.90	.06	.15	13	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. AU DETECTION LIMIT BY ICP IS 3 PPM.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 20 GM SAMPLE. Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: OCT 4 1991 **DATE REPORT MAILED:** Oct 9/91. **SIGNED BY** ..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

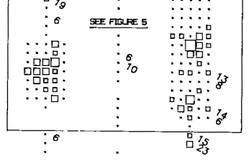
PEN 91-R32, R33 in PROS. Reports

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
C8-R3	4	10	63	39	2.4	9	3	141	.75	2	6	ND	1	4	.3	2	30	7	.06	.016	4	9	.02	25	.01	5	.09	.01	.06	3	37
C8-R4	3	7	12	18	.1	9	1	84	.52	2	5	ND	1	3	.2	2	3	2	.04	.003	2	7	.02	7	.01	3	.03	.01	.01	1	45
RE C10-R17	3	43	36	18	.5	17	14	475	3.35	18	5	ND	1	21	.2	2	2	12	.19	.042	3	26	.07	106	.01	4	.23	.07	.02	1	37
C10-R13	4	9	10	8	.1	9	1	232	.55	2	5	ND	1	5	.2	2	95	4	.06	.015	2	12	.01	18	.01	3	.06	.01	.02	1	3
C10-R14	17	10	7	7	.1	9	1	175	.52	2	5	ND	1	2	.2	2	2	3	.02	.003	2	39	.02	22	.01	5	.07	.01	.02	1	4
C10-R15	59	14	8	18	.1	7	3	159	.75	2	5	ND	1	8	.2	2	2	5	.05	.013	2	7	.14	21	.01	3	.17	.01	.02	1	3
C10-R16	6	6	2	5	.1	10	1	159	.42	4	5	ND	1	3	.4	2	2	2	.04	.011	2	11	.01	11	.01	2	.02	.01	.01	2	12
C10-R17	3	42	34	19	.3	13	13	447	3.15	16	5	ND	1	20	.2	2	2	11	.17	.038	3	26	.07	111	.01	2	.23	.07	.02	1	38
C10-R18	2	21	2	9	.1	13	4	400	1.00	2	5	ND	1	12	.2	2	2	7	.16	.052	2	13	.08	33	.01	3	.14	.02	.03	2	5
C10-R19	2	9	9	41	.6	7	3	269	1.71	2	5	ND	5	39	.2	2	2	20	.26	.032	8	15	.66	139	.06	2	1.09	.04	.25	1	2
C13-R3	3	14	11	4	.1	10	4	263	.64	2	5	ND	1	5	.2	2	4	1	.06	.003	2	12	.01	36	.01	2	.03	.01	.01	2	6
C18-R1	3	5	2	4	.1	5	3	171	.69	2	5	ND	1	56	.2	2	2	12	.26	.008	2	31	.02	17	.01	4	.23	.01	.05	7	7
C18-R2	3	270	167	51	6.4	27	10	642	2.21	2	5	ND	2	73	.8	2	9	20	1.74	.044	3	14	.69	63	.01	3	.58	.02	.09	2	17
C18-R3	2	9	4	3	.1	6	1	147	.48	11	6	ND	1	5	.2	2	2	1	.10	.005	2	4	.02	41	.01	2	.03	.01	.02	1	4
C18-R4	3	7	6	8	.1	7	3	153	.73	2	5	ND	1	3	.2	2	2	3	.02	.006	2	10	.03	121	.01	3	.11	.01	.03	1	14
CR91-R20	4	24	2	50	.2	9	10	422	2.19	2	5	ND	1	47	1.0	2	3	34	1.48	.034	3	32	.55	74	.09	4	.90	.06	.09	3	8
PEN91-R32	84	14	28	4	38.1	1	1	34	.62	25	5	6	1	2	.2	2	7	1	.02	.006	2	2	.01	13	.01	2	.05	.01	.04	1	4280
PEN91-R33	8	11	47	8	3.0	5	1	65	.66	2	5	ND	1	2	.2	2	12	4	.02	.005	2	5	.03	17	.01	2	.11	.01	.04	1	1060
ELK91-R2	3	28	7	9	.3	3	1	52	.57	9	5	ND	1	1	.3	2	2	1	.01	.001	2	4	.01	6	.01	2	.02	.01	.01	1	40
ELK91-R3	9	7	187	16	.7	4	1	34	.60	2	5	ND	1	3	.3	2	2	1	.01	.003	4	23	.01	153	.01	2	.05	.01	.03	1	17
ELK91-R4	8	10	6	3	.2	5	1	35	.68	2	5	ND	5	6	.2	2	2	1	.01	.004	24	5	.01	29	.01	4	.26	.01	.17	1	24
VN91-R22	3	17	4	10	.1	10	3	230	.64	2	5	ND	1	13	.2	2	2	5	.14	.019	3	14	.02	365	.01	4	.08	.01	.03	26	1
STANDARD C/AU-R	19	60	39	139	7.5	72	32	1061	4.04	40	21	7	38	52	18.9	15	19	55	.51	.092	38	59	.88	175	.09	33	1.89	.06	.15	11	490

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

14000 N
13800 N
13600 N
13400 N
13200 N
13000 N
12800 N
12600 N
12400 N
12200 N
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
7800 N
7600 N
7400 N
7200 N
7000 N
6800 N
6600 N
6400 N
6200 N
6000 N
5800 N
5600 N
5400 N
5200 N
5000 N
4800 N
4600 N
4400 N
4200 N
4000 N

2800 E
3200 E
3600 E
4000 E
4400 E
4800 E
5200 E
5600 E
6000 E
6400 E
6800 E
7200 E
7600 E
8000 E
8400 E
8800 E
9200 E
9600 E
10000 E
10400 E
10800 E
11200 E
11600 E
12000 E



GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,304
SYMBOLS

- · LESS THAN AND EQUAL TO 10 PPB
- ▫ GREATER THAN 10 PPB
- □ GREATER THAN 20 PPB
- □ GREATER THAN 50 PPB
- □ GREATER THAN 100 PPB

VALUES LESS THAN 5 PPB NOT PLOTTED

FAIRFIELD MINERALS LTD.

PEN PROPERTY

AU SOIL GEOCHEMISTRY

SIMILKAMEEN MINING DIVISION
NTS 92H 16E

1: 20000

Cordilleran Engineering Ltd.
1980 1055 West Hastings St.
Vancouver, B.C.
V6E 2E9

MARCH 1992

Plate 1