

**DIAMOND DRILLING REPORT**

on the

**KEMESS PROPERTY**

**OMENICA MINING DIVISION**

**BRITISH COLUMBIA**

**N.T.S. 94 E / 2**

**Latitude 57° 04' North**

**Longitude 126° 44' West**

**SUB-RECORDER**

**RECEIVED**

**MAY 4 1990**

**M.R. # ..... \$ .....**

**VANCOUVER, B.C.**

**LOG NO. 0509 RD.**

**ACTION:**

**FILE NO:**

Claim Name	Record No.	No. of Units	Record Date
New Kemess No. 1	43	18	July 11, 1975
New Kemess No. 2	44	20	July 11, 1975

- Prepared For -

**EL CONDOR RESOURCES LTD.**

Suite 1270 - 601 West Hastings Street  
Vancouver, British Columbia V6B 5A6  
(604) 681 - 0799

- Prepared By -

**C.E.C. ENGINEERING LTD.**

Suite 1270 - 601 West Hastings Street  
Vancouver, British Columbia V6B 5A6  
(604) 681 - 0799

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**19,962**

March 30, 1990

D.J. Copeland, P.Eng.  
J.D. Blanchflower, F.G.A.C.

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T.K.

## INTRODUCTION

The KEMESS property is comprised of the New Kemess No. 1 and No. 2 M.G.S. mineral claims, totalling 38 units. It is located in the southern part of the Toodoggone mining camp in the Omineca Mining Division, northcentral British Columbia.

It was staked in 1967 by Kennco Explorations (Western) Limited to cover a large copper-molybdenum geochemical anomaly. Their exploration work, until 1971, and the subsequent work by Getty Mines Limited, until 1977, were directed towards the porphyry copper potential of the property.

El Condor Resources Ltd. of Suite 1270 - 601 West Hastings Street, Vancouver, B.C. negotiated an option agreement with Kennco Explorations (Western) Limited in 1986. Since that time El Condor Resources Ltd. has earned a 60 per cent interest in the property by exploring and evaluating its gold, silver and copper mineralization within a large, high-level, calc-alkaline hydrothermal system.

During the 1989 field season, El Condor Resources Ltd. employed C.E.C. Engineering Ltd. to manage and supervise a diamond drilling program. This report, prepared at the request of the directors of El Condor Resources Ltd., documents and discusses the diamond drilling results.

## SUMMARY

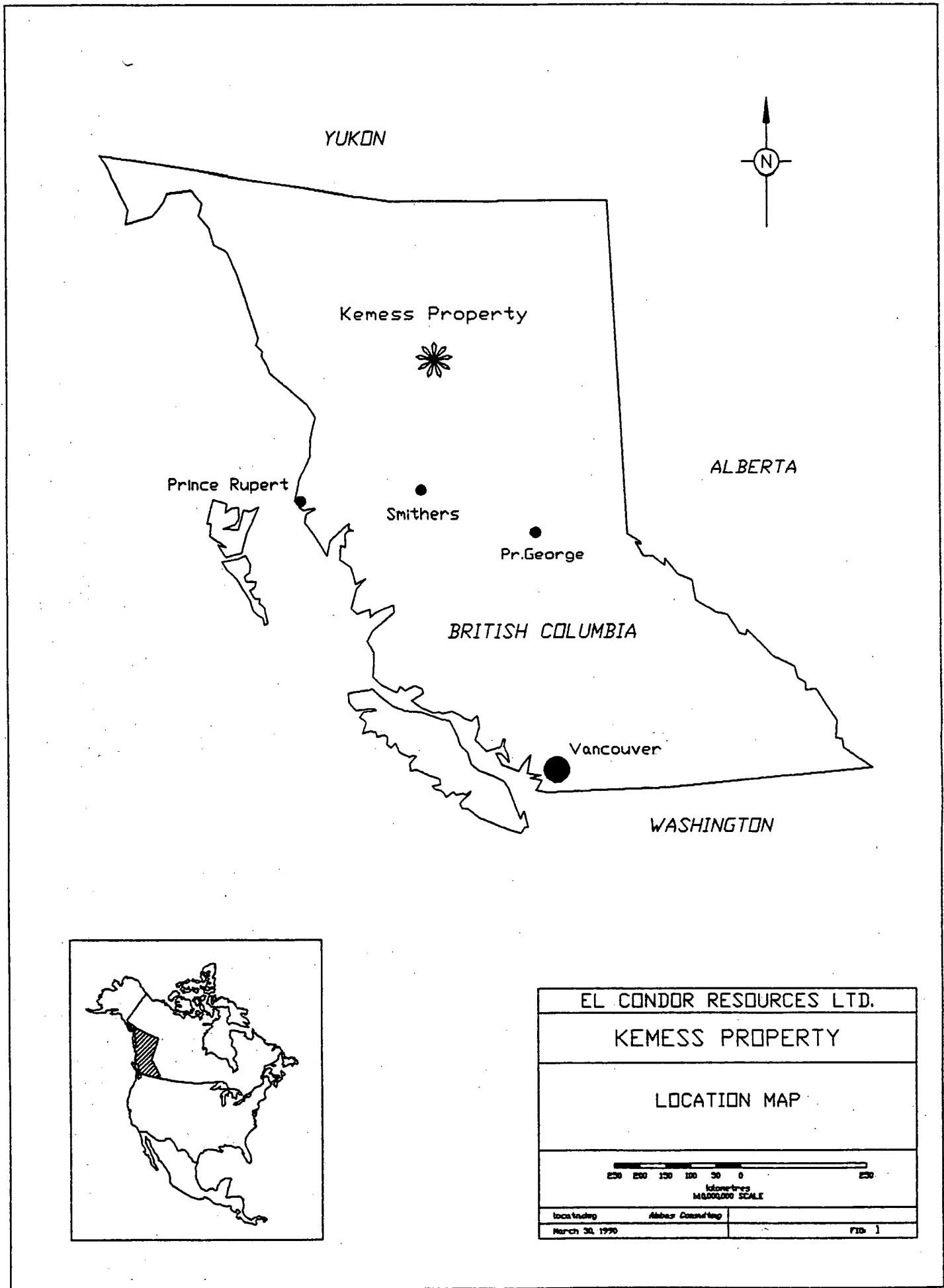
The KEMESS property is situated 7 kilometres east of Thutade Lake, or 265 kilometres north of Smithers, in northcentral British Columbia. Its geographic coordinates are 57° 04' North latitude by 126° 44' West longitude (N.T.S.94 E/2).

Vehicular access is possible via the Omineca Mine road which leads north from Fort St. James and passes 12 kilometres west of the property. El Condor Resources Ltd. has constructed a 16-kilometre tote road between the Omineca Mining road and the property. This tote road is seasonally passable to four-wheel drive trucks, and all-terrain and tracked vehicles.

Access is also possible by scheduled fixed-wing aircraft flights from Smithers to the Sturdee airstrip which services much of the Toodoggone area and the Lawyers Mine. It is approximately 265 kilometres from Smithers to the Sturdee airstrip and 26 kilometres by helicopter from the Sturdee airstrip to the property.

All interests in the New Kemess No. 1 (18 units) and New Kemess No. 2 (20 units) mineral claims are owned by Kennco Explorations (Western) Limited, subject to the terms and conditions of the option agreement that El Condor Resources Ltd. negotiated 1986 to earn a 60 per cent undivided interest in the property.

The claims cover the north-facing slopes and highlands east of Duncan Lake. These highlands are part of the Omineca Mountains of the Swannell Range. Elevations within the claims range from 1,400 metres (4,593 feet) to 1,932 metres (6,339 feet) A.M.S.L.



EL CONDOR RESOURCES LTD.	
KEMESS PROPERTY	
LOCATION MAP	
<p>Kilometres 1:600,000 SCALE</p>	
locating	Atlas Consulting
March 30, 1990	PFB 1

In 1966, Kennco Explorations (Western) Limited carried out a regional silt geochemical survey of the region and the following year Kennco staked 100 mineral claims to cover the Kemess gossan. Their exploration work between 1968 and 1971 discovered a large zone of disseminated pyrite and associated copper mineralization hosted by intensely fractured and silicified volcanic rocks. The later exploration work by Getty Mines Limited, between 1975 and 1977, reconfirmed the earlier results.

The results of 1986, 1987 and 1988 exploration programs by El Condor Resources Ltd. indicate that the property covers a very large, relatively high-level, calc-alkaline hydrothermal system with pervasive gold, silver and copper geochemistry.

The property is situated within the Toodoggone District which lies within the eastern margin of the Intermontane Belt. This district is underlain by a northwesterly trending belt of Paleozoic to Tertiary sediments, volcanics and intrusives covering an area of 90 by 25 kilometres. The southern portion of the property is underlain by intercalated andesitic flows and pyroclastics belonging to the Upper Triassic Takla Group while the northern portion is underlain by intermediate pyroclastic rocks of the Early Jurassic Toodoggone Volcanic suite. Stocks and dykes of dioritic and quartz monzonitic composition intrude both the Takla and Toodoggone volcanic rocks.

The 1989 diamond drilling program was managed by C.E.C. Engineering Ltd. of Vancouver. Five BDBGM (thin-walled BQ) drill holes were completed, totalling 732.02 metres. All the drill core was geologically logged, and sampled at regular intervals (316 samples and 50 check samples). The field work was carried out from October 1st to October 29th, 1989.

The diamond drilling program tested a number of coincident geological, geochemical and geophysical anomalies on both the eastern and western sides of the East Ridge. Despite not intersecting any gold values over 1,000 p.p.b., the highest consistent gold values (250 to 650 p.p.b.) were intersected by drill holes K-89-03 and K-89-04, located in the vicinity of Trench A on the southwestern side of the East Cirque. In drill holes K-89-01, 03 and 05 relatively high copper (1,000 to 2,200 p.p.m.) and silver (1.0 to 4.6 p.p.m.) values were intersected at the bottoms of the holes. All of the holes discovered a gradual increase in copper and silver geochemistry with depth, but these three holes have more pronounced upgrading.

It is obvious from the results that further surveying and later detailed drilling are required to identify specific zones of precious and base metal mineralization with economic potential. It is the opinion of the writers that future drilling should include a number of deep drill holes to test the improvement of precious and base metal tenors with depth.

## GENERAL DESCRIPTION

### Location and Access

The **KEMESS** property is situated 7 kilometres east of Thutade Lake, or 265 kilometres north of Smithers, in northcentral British Columbia. Its geographic coordinates are 57° 04' North latitude by 126° 44' West longitude (N.T.S. 94 E/2).

Vehicular access is possible via the Omineca Mine road which leads north from the town of Fort St. James and passes 12 kilometres west of the property, or approximately 650 kilometres by road from the city of Prince George. In October, 1989, El Condor Resources Ltd. constructed a 16-kilometre tote road between the Omineca Mining road and the Central Cirque area of the property. This tote road is seasonally passable for four-wheel drive trucks, and all-terrain and tracked vehicles.

Access is also possible via scheduled fixed-wing aircraft flights from Smithers to the Sturdee airstrip that services much of the Toadoggone area and the Lawyers Mine. It is approximately 265 air-kilometres from Smithers to the Sturdee airstrip and 26 air-kilometres by helicopter from the Sturdee airstrip to the property. In addition, the British Columbia Railway right of way passes 72 kilometres south of the property.

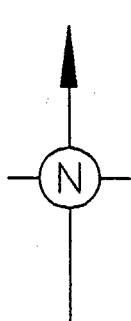
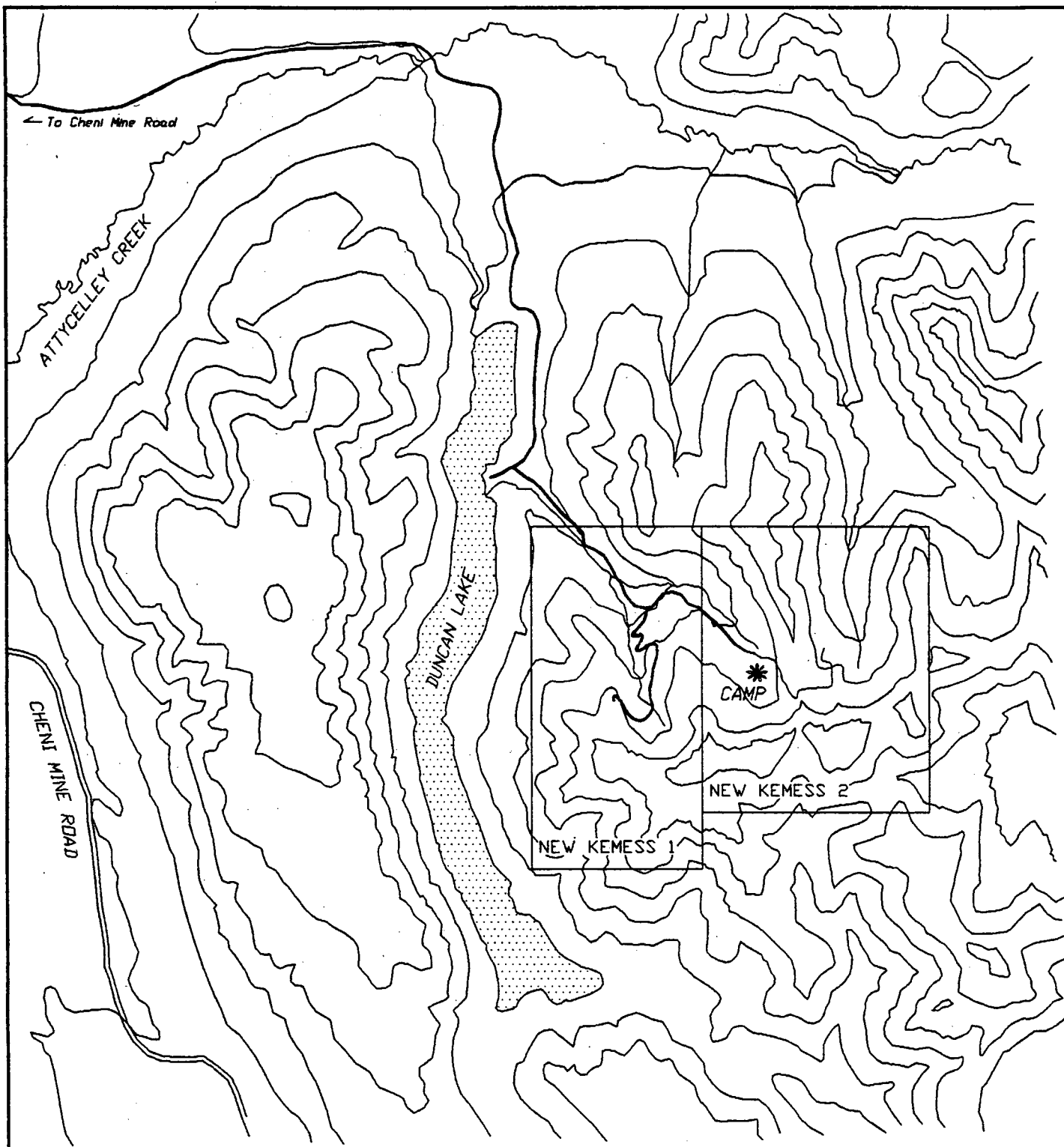
Local access within the property was improved in 1989 by the construction of two all-terrain vehicle trails that lead over the East Ridge into the East Cirque, and around the north end of the West Ridge into the West Cirque and onto the plateau on the west side of the West Cirque.

### Property and Ownership

The property is located in the Omineca Mining Division of northcentral British Columbia. It is comprised of two M.G.S. mineral claims, totalling 38 units. The configuration of the claims is shown on Figure 2. All pertinent claim data are summarized in the following table.

Claim Name	Record No.	Units	Record Date	Expiry Date	Owner
New Kemess No. 1	43	18	Jul 11/75	1993	Kennco
New Kemess No. 2	44	20	Jul 11/75	1993	Kennco

The New Kemess No. 1 and No. 2 mineral claims are owned by Kennco Explorations (Western) Limited and are subject to the terms and conditions of an option agreement negotiated with El Condor Resources Ltd. in 1986. This option agreement provides El Condor Resources Ltd. with the right to earn a 60 per cent undivided interest in the property.



EL CONDOR RESOURCES LTD.	
KEMESS PROPERTY	
CLAIM MAP LOCATION & ACCESS	
<p>metres 1:50,000 SCALE</p>	
File: claims.dwg	abbas consulting
March 30, 1990	FIG 2

## Physiography

The property covers the north-facing slopes and highlands east of Duncan Lake. These highlands are part of the Omineca Mountains of the Swannell Range. Elevations range from 1,400 metres (4,593 feet) to 1,932 metres (6,339 feet) A.M.S.L.

The climate is moderate with temperatures ranging from  $-40^{\circ}$  and  $+25^{\circ}$  C. Precipitation is usually moderate. The snowpack commonly thaws by late June, and the field season may extend until mid to late October.

The topography is moderate but there is a series of very steep east-west cirque cliffs situated centrally within the claims. The most westerly cirque contains an alpine rock glacier which appears to be still active. Most of the property is above treeline where the vegetation is scrub balsam and low juniper.

## History

Placer gold was discovered at the mouth of McConnell Creek, 30 kilometres northwest of Johansen Lake, in 1899. In 1907, a short lived gold rush occurred as a result of this discovery.

In the 1930's Cominco prospected the Thutade and Duncan Lakes area for the lode source of the placer gold found in Belle Creek. The source was not discovered but Cominco did stake four claims covering a skarn occurrence with lead-zinc mineralization, 3 kilometres west of the property (Stevenson, 1969).

In 1968, Kennco Explorations (Western) Limited discovered the Chapelle (Baker Mine) gold-silver deposit while searching for porphyry copper-molybdenum occurrences in the district. Over the next fifteen years several major mining companies explored the region for precious and base metal occurrences. Their work resulted in the discovery of significant gold and silver mineralization at Lawyers, Metsantan, Sha and Kemess properties.

The Baker (Chapelle) mine was in production until early 1984. Its initial reported reserves were 120,000 tons grading 0.8 ounces per ton gold and 15.0 ounces per ton silver. Reported reserves for this deposit are now 55,000 tons of 5.1 ounces per ton silver. The nearby Cheni (Lawyers) mine is now in production with reported mineable reserves of 1,414,000 tons of 0.205 ounces per ton gold and 7.27 ounces per ton silver (Schroeter, 1989).

In 1966, Kennco Explorations (Western) Limited carried out a regional silt geochemical survey in the vicinity of the subject property. The following year Kennco staked 100 mineral claims to cover an intense gossan zone with high base and precious metal silt geochemistry.

The 1968 exploration work by Kennco included: silt, soil and rock geochemical sampling, geological mapping (1:9,600), and X-ray

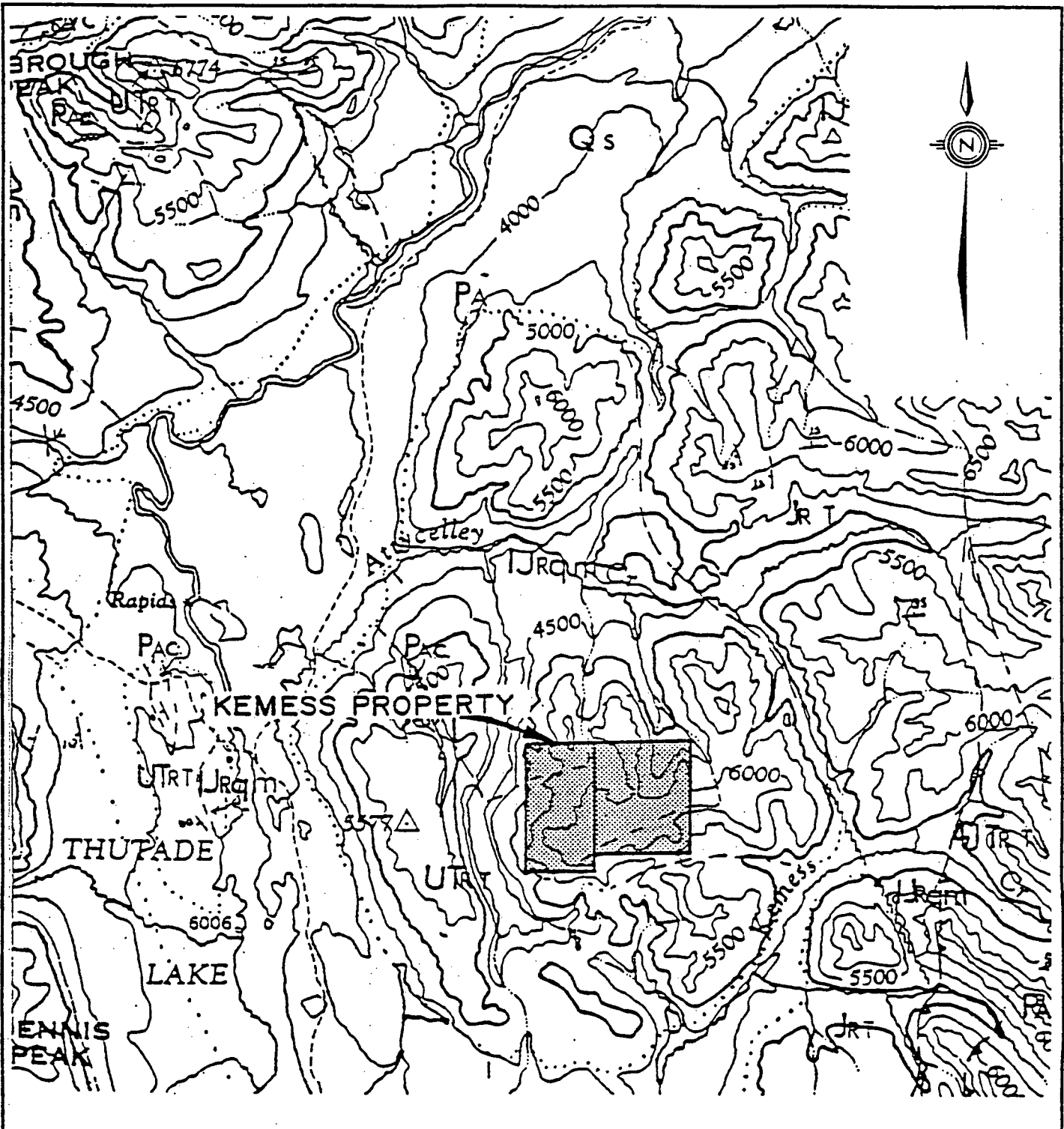


diamond drilling which totalled 51 metres (168 feet) for two holes. Subsequent drilling by Kennco included four X-ray holes totalling 127 metres (418 feet) in 1969, and two X-ray holes totalling 54 metres (178 feet) in 1971. The core recovery from most of this drilling (i.e. DDH KX1 to KX7) was reported to be from very poor to nil (Stevenson, 1969 and Cann, 1976). None of the Kennco drill core is available for relogging or check-assaying.

Getty Mines Limited optioned the property in 1975. Their initial exploration work included: claim restaking, photogrammetric topographic mapping (1:4,800), relocation of the mineral claims, 'fill-in' soil geochemical sampling, geological mapping (1:4,800), and diamond drilling (five NQ and BQ holes totalling 589 metres or 1,932 feet). In 1976, Getty diamond drilled eight NQ-and BQ-core holes totalling 1,476 metres (4,842 feet). Most of this drilling was located within the Central Cirque area near Kennco's drill sites. The option agreement between Getty and Kennco was terminated in 1977.

El Condor Resources Ltd. optioned the property in 1986, and employed Minorex Consulting Ltd. to carry out a program of geological, geochemical and geophysical surveying. In 1987, a litho-geochemical sampling program was conducted along the East Ridge, in the central portion of the property. Gold values were returned from samples of pyritic Toodoggone Volcanic rocks with low arsenic and antimony values, and variable silver and base metal values. The highest analytical results were returned from a small exposure on the west side of the ridge. During the 1988 field season, an integrated exploration program was conducted that included: establishing three survey control grids over selected geological and/or geochemical targets, soil geochemical sampling, electromagnetics and induced polarization geophysical surveying, hand trenching and detailed litho-geochemical sampling.

The results of all this work show that the property covers a very large, relatively-high level, calc-alkaline hydrothermal system with pervasive gold, silver and copper geochemistry. Furthermore, that definitive geophysical surveying, trenching and diamond drilling would be required to delineate the precious metal-bearing structures within the poorly-exposed areas of the system to focus further exploration attention.



EL CONDOR RESOURCES LTD.	
KEMESS PROPERTY	
REGIONAL GEOLOGY	
After G.S.C. Open File 483, 1983	
 <small>Metres</small> <small>Scale 1:25,000</small>	
File: clans.dwg	
March 26, 1990	FIG 3

## GEOLOGIC SETTING

### Regional Geology

The Toodoggone District lies within the eastern margin of the Intermontane Belt. It is underlain by a northwesterly trending belt of Paleozoic to Tertiary sediments, volcanics and intrusives covering an area of 90 by 25 kilometres. The basement rocks are Proterozoic metasedimentary equivalents of the Ingenika Group. These rocks are unconformably overlain by volcanic and sedimentary units of the Permian Asitka Group which are in turn overlain by Upper Triassic basaltic to andesitic flows, volcanoclastics and minor limestone of the Takla Group. Volcanoclastic rocks of the Lower Jurassic Hazelton Group and rhyolitic to dacitic flows, intrusives, and volcanoclastics of the Early Jurassic Toodoggone volcanics overlie the Takla Group. Further to the west, nonmarine sediments of the Cretaceous to Eocene (?) Sustut Group overlie the volcanic strata and form the western margin of the district.

The Lower Jurassic to Middle Jurassic Omineca Intrusions of quartz monzonitic and granodioritic composition have intruded the older strata in the central and eastern portions of the region, and form the eastern margin of the Toodoggone District. Other intrusive rocks include some syenomonzonitic bodies and quartz feldspar porphyritic dykes that may be feeder bodies to the Toodoggone Volcanic rocks.

The regional structural setting of the Toodoggone District is the result of comagmatic intrusive, volcanic and hydrothermal events occurring along deep-seated, northerly trending fault zones over a 20-million year period in Upper Triassic to Lower Jurassic time. The volcanism resulted in the deposition of a thick succession of Toodoggone volcanic rocks on a basement of Takla Group volcanics and Asitka Group sediments within a subaerial, perhaps locally shallow marine, environment. The associated intrusive and hydrothermal events invaded and altered the coeval volcanics along the same repetitively-active fault zones.

In the southwestern part of the district, low angle thrust faulting during the Middle Jurassic time placed Permian Asitka Group marbles over the Mesozoic Takla Group and Toodoggone Volcanic suite in the southwestern part of the district. The contact area is a series of stacked thrust plates. In this region Toodoggone rocks dip steeply and Z-shaped northerly trending folds occur with amplitudes of, at least, 20 metres. This is in marked contrast to the area further north where gently dipping beds in tilted fault blocks or broad open folds with horizontal axes are the norm. Subsequent repetitive, normal block faulting from Jurassic to Tertiary time has displaced the Toodoggone volcanic rocks and formed broad folds within them with westerly-directed dips less than 25 degrees. In contrast, the Takla and Hazelton Groups have much greater dips towards the north and northeast, respectively.

The Sustut Group dips 12 degrees to the southwest, and does not appear to have undergone any major structural disruptions.

The Toodoggone District is widely known for its precious-metal and copper mineralization. Both the Takla and Toodoggone volcanics host epithermal gold and silver mineralization. Repetitive normal faulting during Jurassic time provided the fracture channelways through which the mineralizing fluids migrated. Schroeter (1981) has dated alunite from a mineralized quartz vein which indicates that the major phase of mineralization occurred during the Early Jurassic time.

According to Forester (1984), silicified and mineralized zones range in width from a few millimetres to tens of metres, and usually pinch and swell along their length. The fracture controlled mineralization tends to be more abundant within the more competent volcanic rocks. The main ore minerals of the gold-silver deposits are acanthite, gold, silver and electrum with minor amounts of chalcopyrite, galena, sphalerite, polybasite and bornite. The camp silver to gold ratio is 20:1. Gangue minerals include: amethystine, chalcedonic and white quartz, calcite, pyrite, specular hematite, adularia and manganese oxide with lesser amounts of barite, fluorite, siderite and chlorite.

Copper-bearing sulphide mineralization occurs dominantly within the Takla Group volcanics, especially near bladed feldspar porphyry units (Cann, 1976). It is fracture controlled, often associated with the porphyry dykes, and consists of pyrite, chalcopyrite and molybdenite with associated precious-metal values.

Sphalerite and galena mineralization often occurs in the limestone units and skarn zones of the Asitka Group.

## Property Geology

### a) Lithology

The southern portion of the property is underlain by intercalated andesitic flows and pyroclastics belonging to the Upper Triassic Takla Group. According to Gower (1988), augite andesite underlies the western portion of the property while feldspar porphyritic andesite flows and breccias dominate the eastern portion. The volcanic rocks are massive, but the geologic trend of the Takla Group is indicated by local limestone lenses in the East Cirque area that strike southeasterly and dip  $-60^{\circ}$  southwestward (Cann, 1988). Local basaltic dykes intrude these units with north-northwesterly and northerly trends.

The central portion of the property is underlain by intermediate pyroclastic rocks of the Early Jurassic Toodoggone Volcanic suite that dip gently southward. The major units are lithic and crystal tuffs, and tuffaceous breccia.

The extreme northwestern and southern portions of the property are underlain by stocks of granodioritic and quartz monzonitic composition, respectively (Gower, 1988). These stocks intrude both the Takla and Toodoggone volcanic rocks.

Porphyritic stocks and dykes, comagmatic with an underlying granitic pluton, intrude the volcanic rocks in the Central Cirque area (Gower, 1988). The most dominant of these intrusions is a syenitic porphyry dyke which crops out within the Central Cirque area and trends west-northwesterly.

The local lithologic units are described and correlated stratigraphically, in decreasing age, as follows.

## UPPER TRIASSIC

### TAKLA GROUP

#### **Augite Porphyry, Basaltic Flows and Tuffs (Unit 1)**

This unit is a drab grey-green rock containing stubby augite phenocrysts up to 6 mm. long in a slightly darker fine-grained groundmass. Often actinolite partially or completely replaces augite. The groundmass is predominantly plagioclase (An 44) laths. Chlorite, epidote, sphene and actinolite occur in minor amounts. Pyrite and magnetite occur as disseminations.

#### **Bladed Feldspar Porphyry (Unit 2)**

This unit is characterized by elongate plagioclase phenocrysts, varying in length from 5 to 20 mm., in an aphanitic grey-green groundmass. The plagioclase phenocrysts (An 44) are unzoned and slightly to completely saussuritized, with partial to complete replacement by epidote. The groundmass contains trachytic plagioclase (An 28) microlites, devitrified glass and chlorite. Magnetite occurs as minor disseminations. It may also be locally agglomeritic and include minor limestone lenses.

#### **Bladed Feldspar Porphyry Tuff Breccia (Unit 3)**

This unit is composed mainly of subrounded, poorly-sorted bladed feldspar porphyry breccia fragments up to 0.6 m. across. Augite porphyry and felsic fragments occur in lesser amounts. The matrix is a crystal tuff, rich in euhedral to anhedral, moderately saussuritized plagioclase (An 30) crystals; minor angular, fine-grained quartz, chlorite and epidote also occur.

#### **Basaltic Dykes (Unit 4)**

These northerly trending dykes are often 0.5 to 0.75 metres wide with steep dips. They are very dark brown-grey aphanitic rocks with fine-grained black pyroxene disseminated throughout. Plagioclase laths and augite phenocrysts occur in a chlorite-rich groundmass. Fine-grained magnetite is pervasively disseminated.

## EARLY JURASSIC

## TOODOGGONE VOLCANICS

**Crystal and Lithic Tuffs (Unit 5)**

Crystal tuff is a dark purple-grey to dark grey rock composed of euhedral to anhedral equant plagioclase crystals in an aphanitic groundmass. The plagioclase crystals vary in size from 2 to less than 0.03 mm., and they are unzoned (An 35), oscillatory zoned, or normally zoned. Quartz forms a few angular grains about 0.2 mm. in diameter. All are in a very fine-grained groundmass of quartz, plagioclase and opaque minerals.

Lithic crystal tuff consists of a variety of fragments in a dark grey to dark grey-purple feldspathic crystal groundmass. The fragments are quite distinct on weathered surfaces and include: epidote fragments up to 7 mm. across, angular andesitic fragments up to 11 mm., subrounded felsite fragments up to 12 mm. across, and angular quartz porphyry fragments up to 60 mm. in diameter. The groundmass is a crystal tuff containing euhedral to anhedral 1.5 mm.-long plagioclase (An 32) crystals and anhedral to subhedral quartz grains.

## LOWER TO MIDDLE (?) JURASSIC

## OMINECA INTRUSIONS (Unit 6)

**Quartz Monzonite (Unit 6a)**

This unit is pink, equigranular and fine- to medium-grained in appearance. Quartz, orthoclase and plagioclase occur in approximately equal proportions. Plagioclase (An 50) is slightly altered to sericite and locally contains patches of secondary biotite. Primary biotite, about 2 per cent of the rock, forms fine laths partly altered to chlorite. Traces of magnetite make the rock weakly magnetic.

**Granodiorite (Unit 6b)**

This unit is a pink-grey, inequigranular, medium-grained rock. There are two distinct varieties: one with abundant euhedral plagioclase crystals (An 50) in a finer-grained groundmass of subhedral and anhedral quartz and orthoclase with hornblende, biotite and magnetite occurring as subhedral and euhedral grains up to 2 mm. across; and a second one that is conspicuously porphyritic with hornblende, plagioclase, quartz and magnetite as euhedral phenocrysts. The second variety has hornblende crystals up to 6 mm. in length, and quartz and plagioclase crystals commonly 2 to 3 mm. across. Its groundmass is mainly fine-grained orthoclase.

### **Feldspar Quartz Biotite Porphyry (Unit 7)**

Altered and pyritic stocks and dykes of crowded feldspar quartz biotite porphyry are poorly exposed, but they have been identified in drill core and they also crop out in a few localities. Previous references to dacitic crystal tuff in these localities are believed to be, in fact, this porphyritic unit.

### **Feldspar Hornblende Porphyry and Crowded Feldspar Hornblende Porphyry (Unit 8)**

This unit can be subdivided into two distinct units. It is generally pink-brown or grey on fresh surfaces, and monzonitic in composition. Plagioclase forms euhedral, saussuritized phenocrysts, 0.2 to 2 mm. in length. Hornblende and more rarely augite form laths up to 2 mm. long, and some poikilitic grains enclose plagioclase and opaque minerals. The groundmass is a fine-grained, cloudy mixture of chlorite, plagioclase, orthoclase and quartz.

The two subdivided units can be distinguished by: one containing 45 per cent phenocrysts, no augite and only poikilitic hornblende (i.e. feldspar hornblende porphyry); and the other containing 60 per cent phenocrysts of augite and poikilitic hornblende (i.e. crowded feldspar hornblende porphyry).

### **Quartz Plagioclase Porphyry (Unit 9)**

This unit is a light grey rock with anhedral to subhedral quartz phenocrysts and epidote in an aphanitic groundmass. Plagioclase (An 30) crystals are moderately to well saussuritized. Epidote forms aggregates up to 5 mm. across with interstitial quartz and orthoclase. The groundmass is a very fine-grained mixture of plagioclase, quartz, sericite and chlorite. Pyrite occurs as minor finely disseminated grains.

### **Leucocratic Feldspar Hornblende Porphyry (Unit 10)**

This rock is buff to light grey in colour with phenocrysts of plagioclase and hornblende occurring in an aphanitic groundmass. Plagioclase (An 30) crystals are euhedral, unoriented, and moderately saussuritized. Hornblende is completely replaced by calcite and chlorite. Epidote occurs as aggregates after the alteration of plagioclase. The groundmass is very fine-grained plagioclase, quartz, calcite and sericite.

#### **b) Structure**

The Takla Group volcanic rocks have undergone intense structural deformation. Numerous faults, shears and fractures cut and displace the strata to a much greater degree than the intrusives.

Based upon the distribution and trend of the lithologies and the structural data, major normal and transcurrent faulting occur commonly in an east-northeasterly direction ( $070^{\circ}$ ), roughly paralleling the north-facing cliffs of all three cirques.

Stevenson (1968) traced the 'cliff' fault for 3,000 metres in an east-northeasterly direction from the southwestern wall of the West Cirque to the southeastern wall of the East Cirque. According to Stevenson (1968), this fault varies in dip from  $-20^{\circ}$  to  $-70^{\circ}$  northward, averaging  $-30^{\circ}$  northward. This fault has a 15 centimetre gouge zone, and it is bordered on both sides by intense shearing for 0.3 metre. There are numerous parasitic shears and faults paralleling this structure; most of which dip southward but some vary from  $-60^{\circ}$  southward to  $-60^{\circ}$  northward.

The 'cliff' fault is very conspicuous in the steep north-facing slopes of the Central Cirque. North of the fault, the country rocks are intensely pyritized and weathered to a bright orange or red colour. South of the fault, the rocks are much less mineralized and limonitic. The limonitic zones in the cliffs are restricted to transverse fault and shear zones cutting the main fault structure in a northerly to northwesterly direction. According to Stevenson (1968) and Cann (1976), these transverse structures occur with three different fracture orientations. One set of fractures strikes at  $175^{\circ}$  to  $180^{\circ}$  with vertical to  $-60^{\circ}$  easterly dips. The second set strikes  $025^{\circ}$  to  $045^{\circ}$  and dips  $-80^{\circ}$  to  $-60^{\circ}$  southeastward while the third set strikes  $135^{\circ}$  to  $155^{\circ}$  and dips from  $-50^{\circ}$  to  $-70^{\circ}$  northeastward. All three fracture sets appear to be contemporaneous with the major faulting.

The second fault structure, called the 'cirque' fault, has been traced for 3,000 metres. It displaces the volcanics on the southeastern side of the West Cirque and trends northeastward through the pass between the Central and East Cirques, called the "Khyber Pass". At this point, the fault appears to curve or be offset southeastward. This change in strike direction is buried by glacial rubble but the geophysical results indicate that it is the same structure. It is the writers' opinion that the 'cirque' fault may spall or 'horsetail' into subparallel structures as it transects the East Cirque.

It is the writers' opinion that the Upper Triassic Takla Group volcanic rocks were fractured and displaced prior to the deposition of the Toodoggone Volcanic suite and the intrusion of the Lower Jurassic Omineca Intrusive rocks by northerly and easterly trending faults in Early Jurassic time. These structures, or their conjugate sets, were reactivated repeatedly during the emplacement of the various feldspar hornblende porphyry dykes, and the subsequent deposition of the metal-rich hydrothermal fluids. Some of these ancestral fracture systems have remained active regionally and may have been responsible for local uplift in Tertiary time prior to erosion.



### c) Alteration

There are four recognized types of alteration, including: quartz-sericite-pyrite, propylitic, zeolitic and hornfelsic. Geologic studies by Cann (1976) show that they occur only within the volcanic and pyroclastic rocks. A brief description of these alteration facies follows.

#### i) Quartz-Sericite-Pyrite

Pervasive quartz-sericite-pyrite alteration occurs as a large central zone. This alteration assemblage appears as envelopes surrounding veinlets of pyrite and microfractures. It is characterized by pale bleached rock with abundant boxworks commonly lined with jarosite after pyrite. Plagioclase is altered to quartz and muscovite, and sericite may form approximately 15 per cent of the rock. Chlorite and kaolinite form approximately 30 per cent of the rock. Rutile(?) occurs as disseminated bright orange grains. The abundance of sericite and sulphide boxworks decreases with a decrease in the intensity of alteration, and sulphides (pyrite) and goethite become increasingly more common.

Only quartz-sericite-pyrite alteration is known to be directly associated with the mineralization.

#### ii) Propylitic

Propylitic alteration occurs as an elongate east-west zone parallel to and south of the central quartz-sericite-pyrite zone. Propylitized rocks are green, and are characterized by local albitization and variable epidote, chlorite and calcite alteration.

#### iii) Zeolitic

This alteration is most common in an area north of the quartz-sericite-pyrite zone; however, it is found locally throughout the property. Cann (1976) identified the zeolite 'laumontite' with the use of x-ray diffraction. Laumontite often occurs as fracture fillings up to 3 millimetres thick in local shear zones. It is a soft, friable, salmon pink coloured mineral which is common in the Takla Group.

#### iv) Hornfelsic

Hornfels alteration forms an irregular zone of variable intensity primarily within the crystal tuff unit. This zone seems to parallel the quartz monzonite and granodiorite intrusive contacts. Intensely hornfelsed rocks are massive, fine-grained and pale grey to brown in colour. Alteration products include: quartz, andalusite (?), epidote, sericite and chlorite. Pyrite occurs locally as microveinlets and fine-grained disseminations with this alteration facies.

d) **Mineralization**

There is a well developed gossanous zone capping the disseminated pyrite mineralization. This gossan forms an elongate, east-west zone measuring approximately 3,300 metres long by 800 metres wide.

The known mineralization, in order of abundance, includes: pyrite, chalcopyrite, magnetite, hematite, molybdenite and digenite. Pyrite occurs as microveinlets and disseminations within the gossan zone. Its abundance varies from 0.5 to 10 per cent, and is directly proportional to the intensity of the fracturing and alteration.

Chalcopyrite occurs in northerly trending veinlets, microveinlets, or, more commonly, as disseminations with pyrite, magnetite-hematite and gangue minerals of quartz and orthoclase. Digenite rims chalcopyrite grains where supergene mineralization occurs (Cann and Godwin, 1980). Molybdenite has also been found to be spatially associated with the quartz-sericite-pyrite alteration zone as fracture fillings.

Drilling results show that there is a 10- to 20-metre leached cap over the known copper and precious metal mineralization, and assay results show that beneath this cap the mineralization is enriched for a thickness of up to 30 metres.

## 1989 DIAMOND DRILLING PROGRAM

The 1989 diamond drilling program was managed by C.E.C. Engineering Ltd. of Vancouver, on behalf of El Condor Resources Ltd. The program was intended to evaluate the coincident geophysical and gold soil geochemical anomalies along the East Ridge. Only five BDBGM (thin-walled BQ) drill holes, totalling 732.02 metres, were completed due to a late startup date, mechanical problems and deteriorating weather conditions.

The drilling contract was awarded to Van Alphen Exploration Services Ltd. of Smithers, B.C. Mr. M. Hopley, a qualified consulting geologist with M.J. Hopley and Associates of Vancouver, B.C., was employed supervise the field program and log of the drill core. Messrs. P. Mazafek and J. Devlin, two qualified geological personnel with C.E.C. Engineering Ltd., assisted Mr. Hopley. The field program was carried out between October 1st and 29th, 1990.

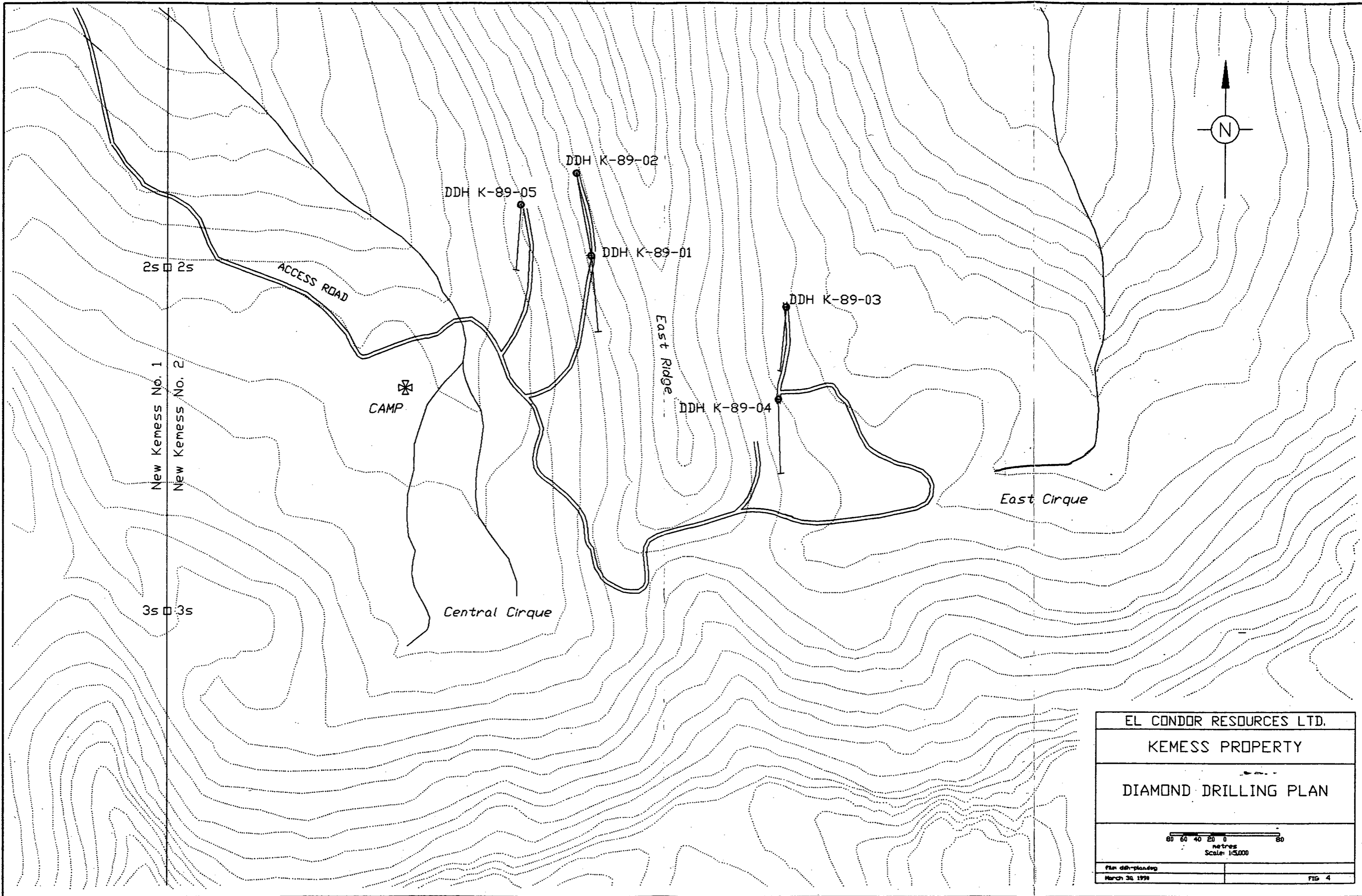
The pertinent diamond drill hole data follows.

Drill Hole	Coordinates		Azimuth	Declination	Length (m)
	N.	E.			
DDH-K-89-01	103+25	105+50	173°	-45°	152.44
DDH-K-89-02	104+50	105+65	175°	-45°	149.40
DDH-K-89-03	101+75	108+00	185°	-50°	145.12
DDH-K-89-04	100+50	107+50	185°	-45°	152.44
DDH-K-89-05	104+30	104+75	184°	-45°	<u>132.62</u>
<b>Total Drilling Length</b>					<b><u>732.02</u></b>

The diamond drill core was geologically logged and sampled at either 1.52-metre (5-foot) or 3.05-metre (10-foot) intervals; depending upon the geology, alteration and mineralization intersected in the hole. All of the drill core was split in half, and one-half was shipped to Min-En Laboratories Ltd. in Smithers, B.C. for crushing, grinding and pulp preparation. The remaining split drill was properly labelled, stacked and stored at the camp site on the property.

A total of 316 prepared pulps were later shipped to the assay facilities of Min-En Laboratories Ltd. in North Vancouver, B.C. for gold, silver, copper and molybdenum analyses. All samples assayed for gold by fire assay and atomic absorption techniques, and the silver, copper and molybdenum contents were analyzed using atomic absorption techniques. Fifty sample pulps were later sent to Chemex Labs Ltd. in North Vancouver for check assaying.

The geologic logs, analytical results and check assay results accompany this report as Appendices I, II and III, respectively. The locations of the drill hole collars are shown on Figure 4, and the geological cross-sections and analytical results have been plotted on Figures 5 to 7 of this report. The analytical procedures utilized by the two assay laboratories accompany this report as Appendix IV.



EL CONDOR RESOURCES LTD.	
KEMESS PROPERTY	
DIAMOND DRILLING PLAN	
<small>Plan ddh-plan/drjg March 30, 1998</small>	<small>FIG. 4</small>

## DISCUSSION OF RESULTS

The diamond drilling program tested a number of coincident geological, geochemical and geophysical anomalies on both the eastern and western sides of the East Ridge. Despite not intersecting any gold values over 1,000 p.p.b., the program was useful in evaluating the known gold-bearing mineralization at depth.

It is very interesting to note that the highest consistent gold values (250 to 650 p.p.b.) were intersected by drill holes K-89-03 and K-89-04, located in the vicinity of Trench A on the southwestern side of the East Cirque. In both of these holes, the gold values are associated with moderately to intensely silicified and pyritized, lithic and crystal tuff breccia. The prominent northwesterly trending feldspar porphyry dyke was intersected by both drill holes. In drill hole K-89-03, the dyke was found to be remarkably barren despite relatively high copper, silver and gold values near both intrusive contacts. This discovery suggests that the feldspar porphyry dykes may postdate the precious and base metal mineralization event(s).

In drill holes K-89-01, 03 and 05 relatively high copper (1,000 to 2,200 p.p.m.) and silver (1.0 to 4.6 p.p.m.) values were intersected at the bottoms of the holes. All drill holes showed an increase in copper and silver geochemistry with depth, but these three holes have more pronounced upgrading with depth.

It is evident from the geological and analytical results that the intensely-altered pyroclastic host rocks are pervasively mineralized with pyrite and lesser amounts of chalcopyrite, molybdenite and sphalerite. Furthermore, most of the pyrite and chalcopyrite mineralization occurs as microfracture infillings and disseminations associated with steeply-dipping shears, fractures and quartz-sericite-calcite veinlets. Future drilling programs must recognize the steeply dipping attitudes of the fracture-controlled mineralization and utilize inclined drill holes for buried target evaluation.

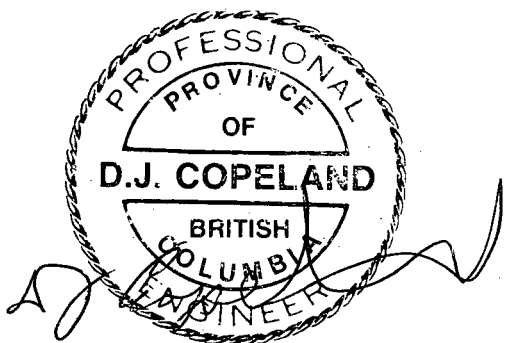
## CONCLUSIONS and RECOMMENDATIONS

The southern portion of the KEMESS property is underlain by intercalated andesitic flows and pyroclastics belonging to the Upper Triassic Takla Group while the northern portion is underlain by intermediate pyroclastic rocks of the Early Jurassic Toodoggone Volcanic suite. Stocks and dykes of dioritic and quartz monzonitic composition intrude both the Takla and Toodoggone volcanic rocks. The geological results show that the property covers a very large, relatively high-level, calc-alkaline hydrothermal system with pervasive gold, silver and copper geochemistry.

The diamond drilling program tested a number of coincident geological, geochemical and geophysical anomalies on both the eastern and western sides of the East Ridge. Despite not intersecting any gold values over 1,000 p.p.b., the highest consistent gold values (250 to 650 p.p.b.) were intersected by drill holes K-89-03 and K-89-04 that are located in the vicinity of Trench A, on the southwestern side of the East Cirque. In drill holes K-89-01, 03 and 05 relatively high copper (1,000 to 2,200 p.p.m.) and silver (1.0 to 4.6 p.p.m.) values were intersected at the bottoms of the holes. All of the holes revealed gradual increases in copper and silver geochemistry with depth, but these three holes have more pronounced vertical upgrading.

It is obvious from the results that further detailed drilling is required to identify specific zones of precious and base metal mineralization with economic potential. Future drilling should include a portion of deep drill holes to test the improvement of precious and base metal tenor with depth.

There should be further drilling west of Trench A and south of the East Ridge hand trench. It is proposed that, at least, two drill holes be sited here to test the known gold-bearing mineralization, and these holes should be extended well beyond the depths of previous drilling to test for surface leaching and vertical zonation of precious and base metal grades.



D.J. Copeland, P.Eng.

Submitted by,

C.E.C. ENGINEERING LTD.

J.D. Blanchflower, F.G.A.C.

Dated in Vancouver, British Columbia this 30th day of March, 1990.

## STATEMENT OF COSTS

The following costs for the 1989 diamond drilling program have been supplied by C.E.C. Engineering Ltd. and El Condor Resources Ltd.

## Personnel Expenses:

Michael Hopley, Project Geologist 30 days @ \$475.00 per day	\$ 14,250.00
Pavel Mazafek, Geologist 25 days @ \$278.00 per day	6,971.50
John Devlin, Geological Technician 21 days @ \$275.00 per day	5,775.00
Steve Millen, Sampler 22 days @ \$275.00 per day	6,050.00
Alain Renaud, Sampler 16 days @ \$200.00 per day	3,200.00
Van Alphen Exploration Services Ltd. - 5 BDBGM (K-89-01 to 05) totalling 2,402 feet	70,172.45
Drill site preparation, John Deere 550 bulldozer	29,516.52
Fixed wing aircraft support - Central Mtn. Air	6,261.40
Helicopter support	3,519.12
Travel expenses (airline) - Canadian Airlines	452.80
Assay and analytical expenses - Min-En and Chemex	2,943.50
Field Supplies and Camp Consumables:	
Fuel	500.56
Food	1,640.56
Propane	1,431.00
Lumber	128.06
Radio rentals and telephone	548.00
Equipment rentals	792.88
Field expendable supplies	1,108.74
Mobilization	1,000.00

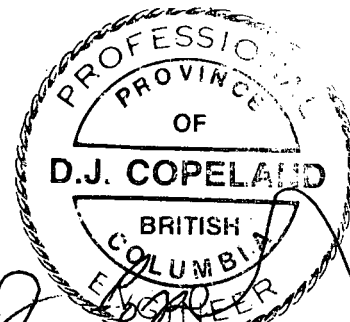
**TOTAL COST OF 1989 DIAMOND DRILLING PROGRAM**

**\$ 156,262.09**

**STATEMENT OF QUALIFICATIONS**

I, David J. Copeland, of the City of Vancouver, Province of British Columbia, DO HEREBY CERTIFY THAT:

- 1) I am a Consulting Geological Engineer with a business office at Suite 1270 - 601 West Hastings Street, Vancouver, British Columbia; and Secretary of C.E.C. Engineering Ltd.
- 2) I am a graduate in Economic Geology with a Bachelor of Science from the University of British Columbia in 1970.
- 3) I am a registered member, in good standing, of the Association of Professional Engineers of British Columbia.
- 4) Since graduation I have been engaged in mineral exploration and mine development in Canada, United States of America, South America and Australasia.
- 5) I own no direct, indirect or contingent interest in the subject claims.
- 6) I directed the 1989 diamond drilling program on the subject property, attended to the site, and co-authored this report which documents the results of the program.
- 7) I am a director and officer of **El Condor Resources Ltd.**, and I own shares in El Condor Resources Ltd.
- 8) I did not receive nor do I expect to receive any payments or fees from the exploration flow-through funds expended on the property.
- 9) I hereby give my permission for inclusion of this letter into a Statement of Material Facts or Prospectus.



D. J. Copeland, P.Eng.

Dated at Vancouver, British Columbia, this 30th day of March, 1990.



**STATEMENT OF QUALIFICATIONS**

I, J. D. BLANCHFLOWER, of the Municipality of Delta, Province of British Columbia, DO HEREBY CERTIFY THAT:

- 1) I am a Consulting Geologist with a business office at 11967 - 83A Avenue, Delta, British Columbia, V4C 2K2; and President of Minorex Consulting Ltd.
- 2) I am a graduate in Economic Geology with a Bachelor of Science, Honours Geology degree from the University of British Columbia in 1971.
- 3) I am a Fellow of the Geological Association of Canada.
- 4) I have practised my profession as a geologist for the past nineteen years.

Pre-Graduate field experience in Geology, Geochemistry and Geophysics (1966 to 1970).

Three years as Geologist with the B. C. Ministry of Energy, Mines and Petroleum Resources (1970 to 1972).

Seven years as Exploration Geologist with Canadian Superior Exploration Limited (1972 to 1979).

Three years as Exploration Geologist with Sulpetro Minerals Limited (1979 to 1982).

Seven years as Consulting Geologist and President of Minorex Consulting Ltd. (1982 to 1990).

- 5) I own no direct, indirect or contingent interest in the subject claims, nor shares in or securities of **EL CONDOR RESOURCES LTD.**
- 6) I compiled the results of the 1989 exploration program on the subject property, and wrote this report which documents the results of the program.
- 7) I consent to the use of this report in a Prospectus or Statement of Material Facts.

  
-----  
J. D. Blanchflower, F.G.A.C.

Dated at Delta, British Columbia, this 30th day of March, 1990.

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**APPENDIX I**

**Diamond Drill Geological Logs**







Property: KEMESSHole No: K-89-02

Claim: \_\_\_\_\_

## Hole Survey

Collar Survey: \_\_\_\_\_

Date Begun: Oct. 16, 1989Date Finished: Oct. 20, 1989Total Depth: 149.34 m (490')Core Size: 43mm (BDBGH)Logged By: MJHDate: Oct. 16, 1989

Footage Bearing Dip

Latitude: 104 + 50 N Section: \_\_\_\_\_Departure: 105 + 65 E Bearing: 175 deg. SElevation: \_\_\_\_\_ Dip: 45 deg.Page: 1 Of: 2

Footage (m)		Description	Sample No.	From	To	Width	Recov	Sulphides	Au oz/t	Au ppb	Ag ppm	CU ppm	MO ppm
From	To												
0	5.79	CASING.											
5.79	21.34	Light grey silicified tuff (?) with patches of fine grained sulphides - mostly pyrite with minor cpy - up to 7% volume. Strong hematite staining on fractures. Minor gypsum filled fractures. Localized brecciated zone - recemented with silica.	44456	5.79	9.14	3.35				8	.6	20	20
			44457	9.14	12.19	3.05				21	.4	19	8
			44458	12.19	15.24	3.05				17	.3	30	15
			44459	15.24	18.29	3.05				20	.3	30	27
			44460	18.29	21.34	3.05				62	.5	150	19
		From 18.90 - 21.34 strong argillic alteration and less intense silicification.											
21.34	79.25	Light grey crystal tuff (?) with up to 7% disseminated pyrite - with minor cpy (?). Occasional irregular, narrow (> 1/2") py. filled fractures.	44461	21.34	24.38	3.04				84	.5	330	7
			44462	24.38	27.43	3.05				103	.6	755	5
			44463	27.43	30.48	3.05				100	.8	220	6
			44464	30.48	33.53	3.05				64	.7	155	2
		From 49.07 onwards - occasional large (3/4" x 1/4" K-spar phenocrysts - high degree of clay alteration & chlorite.	44465	33.53	36.58	3.05				62	1.1	345	4
			44466	36.58	39.62	3.04				81	1.6	410	23
			44467	39.62	42.67	3.05				60	1.2	295	12
65.53	79.25	As above but silicification intense and pervasive - bluish hue to silica. Disseminated fine grained py (+ minor cpy?) up to 10%.	44468	42.67	45.72	3.05				85	1.0	402	18
			44469	45.72	48.77	3.05				165	1.1	920	7
			44470	48.77	51.82	3.05				65	.8	198	8
			44471	51.82	54.25	2.43				100	1.0	433	2
			44472	54.25	56.69	2.44				65	.8	272	6
			44473	56.69	57.91	1.22				60	1.0	860	21
			44474	57.91	60.96	3.05				35	1.0	172	44
			44475	60.96	64.01	3.05				45	.6	223	62
			44476	64.01	67.06	3.05				85	.7	420	35
			44477	67.06	70.10	3.04				45	.6	302	12





Property: KEMESSHole No: K-89-03

Claim: \_\_\_\_\_

Hole Survey

Collar Survey: \_\_\_\_\_

Date Begun: Oct. 20, 1989Date Finished: Oct. 23, 1989Total Depth: 145.08 m (476')Core Size: 43mm (BDBGM)Logged By: MJHDate: Oct. 25, 1989

Footage Bearing Dip

Latitude: 101 + 75 N Section: \_\_\_\_\_Departure: 108 + 00 E Bearing: 185 deg. S.Elevation: \_\_\_\_\_ Dip: 50 deg.Page: 1 Of: 3

Footage (m)		Description	Sample No.	From	To	Width	Recov	Sulphides	Au	Au	Ag	CU	MO
From	To								oz/t	pob	ppm	ppm	ppm
0	15.24	Casing to 15.24 - no core.											
15.24	22.86	Light grey/green highly brecciated fine grained tuff (?). Moderate to high degree of argillic alteration. Vuggy (weathered out sulphides?) with limonite & manganese oxide staining in vugs - + some hematite.	44504	15.24	18.29	3.05	50		280	1.4	207	85	
			44505	18.29	20.73	2.44	50		194	1.2	86	140	
			44506	20.73	22.86	2.13	50		187	.6	79	44	
22.86	23.77	Light grey/green fine grained tuff (?) with fine grained patchy chlorite & pyrite throughout. Py. up to 5%. Patchy silicification.	44507	22.86	24.38	1.52	100		236	1.3	1350	118	
23.77	31.39	Dark grey to green fine grained andesite (?). Strong argillic alteration - abundant chlorite as fine grained matrix. Patchy local silicification not as intense as above. Fine grained disseminated pyrite up to 5%. Also some qz. veinlets up to 1/2" wide with massive py. at 60 deg. to core axis. Occasional patches of fine grained molybdenite.	44508	24.38	27.43	3.05			294	1.6	1950	235	
			44509	27.43	30.48	3.05			239	1.6	1370	41	
			44510	30.48	31.39	.91			202	1.2	930	20	
31.39	108.20	Light grey/green medium grained tuff (?). High degree of argillic alteration and abundant fine grained chlorite. Disseminated py. to about 2% but massive py. veinlets (up to 3/4" wide) common. Silicification patchy, locally intense - qz. has blue hue.	44511	31.39	33.53	2.14			297	1.3	1100	206	
			44512	33.53	36.58	3.05			284	1.2	1350	50	
			44513	36.58	39.62	3.04			354	1.0	843	34	
			44514	39.62	41.15	1.53			340	1.1	1500	25	
			44515	41.15	42.67	1.52			269	1.2	1670	37	
			44516	42.67	45.72	3.05			310	1.2	1290	22	
			44517	45.72	47.24	1.52			325	1.5	1070	17	

Footage (m)		Description	Sample No.	From	To	Width	Recov	Sulphides	Au	Au	Ag	CU	MO
From	To								oz/t	ppb	ppm	ppm	ppm
		Bornite and minor chalcopyrite between 34.29 and 37.19.	44518	47.24	48.16	.92	100		333	1.2	1620	48	
			44519	48.16	50.29	2.13			351	1.2	1430	75	
		At 45.72 - 48.16 dark green to black fine grained andesite (?) finely disseminated pyrite up to 3%, but mostly much less. Small irregular patches of qz. Patchy hematite along fractures.	44520	50.29	51.82	1.53			275	1.0	1290	118	
			44521	51.82	53.34	1.52			206	.8	752	545	
			44522	53.34	54.86	1.52			265	1.0	1540	74	
			44523	54.86	56.39	1.53			519	1.2	1800	74	
		At 76.81 - 78.64 intense argillic alteration - soft rock - broken core. Patchy pink 2 % K-spar.	44524	56.39	57.91	1.52			309	1.0	1200	70	
			44525	57.91	59.44	1.53			283	1.1	1470	80	
			44526	59.44	60.96	1.52			261	1.0	930	38	
		At 86.56 - 89.92 very intense silicification replacing 90% of rock volume.	44527	60.96	62.48	1.52			280	1.1	800	39	
			44528	62.48	64.01	1.53			329	1.4	1680	72	
			44529	64.01	65.53	1.52			252	1.4	1070	115	
			44530	65.53	67.06	1.53			239	1.1	940	21	
			44531	67.06	68.58	1.52			283	1.0	1270	32	
			44532	68.58	70.10	1.52			289	1.4	1020	44	
			44533	70.10	71.63	1.53			340	1.6	1140	80	
			44534	71.63	73.15	1.52			302	1.4	1200	58	
			44535	73.15	74.68	1.53			301	1.6	1450	53	
			44536	74.68	76.20	1.52			217	1.2	725	45	
			44537	76.20	78.64	2.44			242	1.8	1180	73	
			44538	78.64	80.77	2.13			327	1.5	1450	64	
			44539	80.77	82.91	2.14			313	1.8	1000	102	
			44540	82.91	85.04	2.13			346	2.6	1635	124	
			44541	85.04	86.56	1.52			338	2.4	1371	84	
			44542	86.56	88.39	1.83			355	2.1	1390	224	
			44543	88.39	89.92	1.53			352	1.5	1381	200	
			44544	89.92	91.44	1.52			146	1.0	650	32	
			44545	91.44	94.49	3.05			180	1.1	927	183	
			44546	94.49	96.62	2.13			212	1.4	1085	110	
			44547	96.62	99.06	2.44			266	1.3	1225	227	
			44548	99.06	100.58	1.52			229	1.4	1151	146	
			44549	100.58	102.11	1.53			138	.8	399	132	
			44550	102.11	103.63	1.52			159	1.3	697	84	
			44551	103.63	105.16	1.53			275	1.9	1540	55	
			44552	105.16	106.68	1.52			556	2.8	2745	160	
			44553	106.68	107.59	.91			289	2.2	1461	120	



Property: KEMESSHole No: K-89-04

Claim: \_\_\_\_\_

## Hole Survey

Collar Survey: \_\_\_\_\_

Date Begun: Oct. 23, 1989Date Finished: Oct. 25, 1989Total Depth: 152.39 m (500')Core Size: 43mm. (BDBGM)Logged By: MJHDate: Oct. 25, 1989

Footage Bearing Dip

Latitude: 100 + 50 N Section: \_\_\_\_\_Departure: 107 + 50 E Bearing: 185 deg. S.Elevation: \_\_\_\_\_ Dip: 45 deg.Page: 1 Of: 3

Footage (m)		Description	Sample No.	From	To	Width	Recov	Sulphides	Au oz/t	Au ppb	Ag ppm	CU ppm	MO ppm
From	To												
0	3.05	CASING - NO CORE.											
3.05	10.67	Light grey silicified tuff (?) silica replacing 100% - remnants of tuffaceous texture visible. No sulphides - oxidized. - Limonite along fractures.	44573 44574	3.05 7.01	7.01 10.67	3.96 3.66				157 124	1.1 .7	185 118	74 116
10.67	12.19	As above - fine grained pyrite.	44575	10.67	12.19	1.52				273	1.2	1462	76
12.19	21.34	Light green to grey volcanic tuff. Local patchy silicification and patchy fine grained chlorite. Disseminated fine pyrite up to 5%. Frequent massive py. in veinlets up to 1/2" wide. Local porphyritic texture.	44576 44577 44578 44579 44580	12.19 13.72 15.24 16.76 18.29	13.72 15.24 16.76 18.29 21.34	1.53 1.52 1.52 1.53 3.05				173 203 206 235 156	1.8 1.9 1.7 1.6 1.6	775 1103 906 1231 641	37 75 48 78 53
21.34	43.59	Med. green/grey volcanic. Moderate argillic alteration, chlorite ubiquitous and fine grained dissem. pyrite. Remnant augite Xstals in altered groundmass. At 43.28 veinlet of pink zeolites up to 1/2" wide.	44581 44582 44583 44584 44585	21.34 24.38 25.91 27.43 28.65	24.38 25.91 27.43 28.65 30.48	3.04 1.53 1.52 1.22 1.83				119 220 280 205 207	1.7 1.6 2.3 2.1 1.7	255 732 966 684 977	25 41 43 48 45
43.59	44.27	Syenite porphyry. Plag. Xstals up to 1/4" wide - moderately sericitized in fine grained chlorite matrix. Patchy hematite staining.	44586 44587 44588	30.48 32.00 33.53	32.00 33.53 36.58	1.52 1.53 3.05				192 284 265	1.6 1.9 1.9	743 880 962	24 25 80
44.27	61.72	Medium grey/green intermediate volcanic with abundant fine grained chlorite & dissem. fine grained pyrite. Local zones of brecciation with veins and irregular zones of silicification (with bluish color). Local massive veinlets of py. with occasional cpy. At 60.96 - irregular zeolite veinlets.	44589 44590 44591 44592 44593 44594 44595 44596	36.58 39.62 42.67 44.27 46.02 47.55 49.07 50.29	39.62 42.67 44.27 46.02 47.55 49.07 50.29 51.82	3.04 3.05 1.60 1.75 1.53 1.52 1.22 1.53				315 117 23 377 316 438 269 336	1.8 1.3 1.0 2.1 2.5 2.7 1.9 2.4	1461 557 80 1476 1142 1684 882 1131	49 27 7 324 132 110 125 170

Footage (m)		Description	Sample No.	From	To	Width	Recov	Sulphides	Au	Au	Ag	CU	MO
From	To								oz/t	ppb	ppm	ppm	ppm
			44597	51.82	53.34	1.52			277	2.8	932	102	
			44598	53.34	54.86	1.52			198	3.3	420	245	
			44599	54.86	56.39	1.53			219	3.4	938	85	
			44600	56.39	57.91	1.52			182	2.0	936	83	
			44601	57.91	60.96	3.05			308	2.4	1105	140	
61.72	65.84	Syenite porphyry. Moderate argillic alteration, with dissem. fine grained chlorite. Minor calcite veinlets.	44602	60.96	61.65	.69			321	2.5	1310	125	
			44603	61.65	65.84	4.19			3	43.0	6	6	
			44604	65.84	67.06	1.22			628	3.3	3190	122	
65.84	70.49	As before syenite.	44605	67.06	68.58	1.52			580	2.6	2605	153	
		At 68.28 massive magnetite in small patches.	44606	68.58	70.49	1.91			295	2.1	1240	114	
70.49	74.07	Syenite porphyry as before with more frequent calcite veinlets.	44607	70.49	74.07	3.58			2	36.0	10	10	
74.07	82.30	Medium grey/green int. volcanic with abundant fine grained chlorite and py.	44608	74.07	76.20	2.13			443	2.9	1365	113	
		Patches of massive magnetite at 75.59.	44609	76.20	77.72	1.52			390	2.3	1410	210	
		At 76.20 - 80.47 - intense brecciation and silicification.	44610	77.72	79.25	1.53			225	1.6	1115	150	
			44611	79.25	80.77	1.52			199	1.9	973	124	
			44612	80.77	82.30	1.53			386	2.7	2290	140	
82.30	152.40	Dark green/grey volcanic tuff. Argillic alteration moderate. Pervasive chloritization.	44613	82.30	83.82	1.52			254	2.2	933	195	
		Dissem. fine grained py. up to 1% - locally up to 5%. Numerous light blue qz. veins up to 1" wide. With massive py. Minor irreg. patches of silicification.	44614	83.82	85.34	1.52			347	2.4	1130	80	
			44615	85.34	86.87	1.53			141	1.8	987	58	
			44616	86.87	88.39	1.52			96	1.8	603	44	
			44617	88.39	89.92	1.53			112	1.9	647	15	
			44618	89.92	91.44	1.52			89	2.0	413	25	
		At 93.88 - 95.10 mud only - fault zone?	44619	91.44	93.88	2.44			291	1.7	1305	12	
		At 96.93 - 97.54 zeolite veinlets	44620	93.88	95.10	1.22			421	3.1	2205	200	
		At 89.61 veinlets of fine grained magnetite.	44621	95.10	96.93	1.83			410	2.9	1556	145	
		At 96.93 - 97.23 zeolite veinlets sub// to core axis.	44622	96.93	99.06	2.13			261	2.3	846	85	
			44623	99.06	101.19	2.13			399	2.6	2110	52	
		At 100.28 large patches of irregular fine grained quartz.	44624	101.19	103.33	2.14			165	1.9	781	75	
			44625	103.33	105.16	1.83			227	1.9	827	68	
		At 100.58 magnetite veinlets 1/8" wide.	44626	105.16	106.68	1.52			94	2.0	562	44	
		At 104.24 minor pink/white zeolites and magnetite veinlets. Minor calcite also in veinlets.	44627	106.68	108.81	2.13			118	1.9	761	47	
			44628	108.81	110.64	1.83			164	2.0	860	61	
		At 106.68 - 110.64 magnetite veinlets up to 1/8" wide and irregular patches.	44629	110.64	112.17	1.53			172	2.4	903	21	
			44630	112.17	114.30	2.13			235	1.6	581	5	
			44631	114.30	116.43	2.13			60	1.0	426	47	



Property: KEMESSHole No: K-89-05

Claim: \_\_\_\_\_

## Hole Survey

## Collar Survey: \_\_\_\_\_

Latitude: 104 + 30 N

Section: \_\_\_\_\_

Departure: 104 + 75 EBearing: 184 deg. S.

Elevation: \_\_\_\_\_

Dip: 45 deg.Date Begun: Oct. 25, 1989Date Finished: Oct. 28, 1989Total Depth: 132.59 m (435')Core Size: 43mm (BDBGM)Logged By: MJHDate: Oct. 28, 1989

Footage Bearing Dip

Page: 1 Of: 3

Footage (m)		Description	Sample No.	From	To	Width	Recov	Sulphides	Au	Au	Ag	CU	MO
From	To								oz/t	ppb	ppm	ppm	ppm
0	12.19	Casing - no core.											
12.19	18.29	Rock fragments from talus slope to +/-60'.											
18.29	22.86	Dark green/grey andesite with up to 8% dissem. pyrite.	44645	18.29	23.01	4.72			100	.9	441	6	
23.01	131.67	Light grey strongly argillically altered tuff (?)	44646	23.01	24.38	1.37			45	1.0	318	4	
		with pervasive silicification replacing 50-80% of rock volume. Ubiquitous fine grained pyrite up to 5% locally and irregular shaped "clots" of pyrite and fracture fillings. Minor disseminated epidote.	44647	24.38	25.91	1.53			80	.9	201	36	
			44648	25.91	27.43	1.52			40	.6	92	20	
			44649	27.43	28.96	1.53			40	.7	129	15	
			44650	28.96	30.48	1.52			60	.7	296	5	
			44651	30.48	32.00	1.52			60	1.1	413	3	
			44652	32.00	33.53	1.53			85	1.7	436	2	
			44653	33.53	35.05	1.52			40	1.1	284	2	
			44654	35.05	36.58	1.53			55	.9	315	8	
			44655	36.58	38.10	1.52			85	1.2	282	2	
			44656	38.10	39.62	1.52			115	1.1	415	1	
			44657	39.62	41.15	1.53			80	.9	500	10	
			44658	41.15	42.67	1.52			65	1.0	341	9	
			44659	42.67	44.20	1.53			80	1.0	406	10	
			44660	44.20	45.72	1.52			170	1.5	619	42	
			44661	45.72	47.24	1.52			140	1.4	543	79	
			44662	47.24	48.77	1.53			115	1.4	400	13	
	44663	48.77	50.29	1.52			105	1.6	445	12			
	44664	50.29	51.82	1.53			140	1.6	427	15			
	44665	51.82	53.34	1.52			165	1.6	531	35			
	44666	53.34	54.86	1.52			220	1.9	723	192			
	44667	54.86	56.39	1.53			105	1.7	407	14			



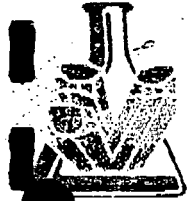
Footage (m)		Description	Sample No.	From	To	Width	Recov	Sulphides	Au	Au	Ag	CU	MO
From	To								oz/t	ppb	ppm	ppm	ppm
		From 75.29 epidote becomes more common.	44668	56.39	57.91	1.52			120	1.7	469	7	
		From 75.59 - 80.16 prominent biotite patches and core is weakly magnetic.	44669	57.91	59.44	1.53			125	2.1	346	27	
		At 83.82-84.12 core fractured with qz. veins more common.	44670	59.44	60.96	1.52			65	1.8	170	10	
		At 83.82-84.12 core fractured with qz. veins more common.	44671	60.96	62.48	1.52			185	2.3	497	20	
		From 83.82 minor calcite with pyrite in veins.	44672	62.48	64.01	1.53			180	2.0	497	19	
		At 83.82 minor calcite with pyrite in veins.	44673	64.01	65.53	1.52			175	2.1	758	15	
		At 90.22-90.83 clay filled fracture sub-parallel to core axis with associated qz. & py.	44674	65.53	67.06	1.53			155	2.1	568	66	
		At 94.18 prominent massive magnetite veining 3/4" wide 60 deg. to core axis with fine grained pyrite and minor calcite.	44675	67.06	68.58	1.52			80	1.7	184	12	
		At 94.18 prominent massive magnetite veining 3/4" wide 60 deg. to core axis with fine grained pyrite and minor calcite.	44676	68.58	70.10	1.52			120	1.3	546	2	
		From 96.93-98.15 strong argillic alteration - fragmented core, abundant sericite. Py. abundant to qz.	44677	70.10	71.63	1.53			240	1.1	940	48	
		From 96.93-98.15 strong argillic alteration - fragmented core, abundant sericite. Py. abundant to qz.	44678	71.63	73.15	1.52			300	1.2	1277	47	
		From 96.93-98.15 strong argillic alteration - fragmented core, abundant sericite. Py. abundant to qz.	44679	73.15	74.68	1.53			175	1.1	694	33	
		From 106.22 - 106.53 as above.	44680	74.68	76.20	1.52			220	1.4	988	88	
		At 107.59 blebs of gypsum.	44681	76.20	77.72	1.52			165	1.4	754	75	
		From 108.81-113.39 sericite alteration. More intense, abundant epidote and +/- 60% bluish, irregular, qz. veining and disseminations.	44682	77.72	79.25	1.53			200	1.6	579	63	
		From 108.81-113.39 sericite alteration. More intense, abundant epidote and +/- 60% bluish, irregular, qz. veining and disseminations.	44683	79.25	80.77	1.52			180	1.2	907	107	
		From 108.81-113.39 sericite alteration. More intense, abundant epidote and +/- 60% bluish, irregular, qz. veining and disseminations.	44684	80.77	82.30	1.53			400	1.4	1103	92	
		From 118.57 - 120.40 core highly fractured and fragmented with intense clay alteration.	44685	82.30	83.82	1.52			600	1.3	1462	77	
		From 118.57 - 120.40 core highly fractured and fragmented with intense clay alteration.	44686	83.82	85.34	1.52			195	1.2	492	10	
		From 118.57 - 120.40 core highly fractured and fragmented with intense clay alteration.	44687	85.34	86.87	1.53			180	1.3	681	60	
		From 126.49 to EOH calcite fracture filling.	44688	86.87	88.39	1.52			260	1.6	740	88	
		From 126.49 to EOH calcite fracture filling.	44689	88.39	89.92	1.53			175	1.3	710	21	
		From 128.02-130.45 silicification very intense.	44690	89.92	91.44	1.52			200	1.2	738	20	
		At 130.45 augite crystals up to 1/2". Oriented roughly at right angles to core axis and clay alteration.	44691	91.44	92.96	1.52			350	1.3	1636	57	
		From 131.67 pink zeolite fracture fillings.	44692	92.96	94.49	1.53			160	1.6	842	90	
		From 131.67 pink zeolite fracture fillings.	44693	94.49	96.01	1.52			135	1.6	579	12	
		From 131.67 pink zeolite fracture fillings.	44694	96.01	97.54	1.53			205	1.4	687	4	
			44695	97.54	99.06	1.52			180	1.5	741	85	
			44696	99.06	100.58	1.52			140	1.2	699	60	
			44697	100.58	102.11	1.53			195	1.4	962	61	
			44698	102.11	103.63	1.52			160	1.3	683	76	
			44699	103.63	105.16	1.53			295	1.0	1163	247	
			44700	105.16	106.68	1.52			160	1.2	736	205	
			44701	106.68	108.81	2.13			100	.8	658	44	
			44702	108.81	111.25	2.44			75	.6	386	200	
			44703	111.25	112.78	1.53			85	.4	223	440	



**APPENDIX II**

Min-En Laboratories Ltd.

Certificate of Assay



**MIN-EN LABORATORIES**

**SPECIALISTS IN MINERAL ENVIRONMENTS**  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 920-5914 OR (604) 928-4524  
TELEX: VIA U.S.A. 7601067 • FAX (604) 920-9221

**TIMMINS OFFICE:**  
33 EAST IROQUOIS ROAD  
P.O. BOX 667  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9896

Geochemical Analysis Certificate 9S-0301-RG1

Company: EL CONDOR/CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: OCT-25-89  
Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. CEC ENGIN., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS

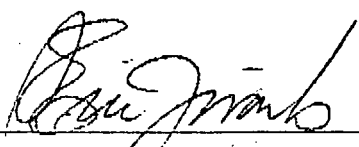
We hereby certify the following Geochemical Analysis of 22 ROCK samples submitted OCT-18-89 by M. HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	Cu CHEMEX	MO	
44 401	CHEMEX (.006) 206	169	2.5	775	900	65
44 402		102	1.3	269		38
44 403		153	1.5	657		37
44 404		102	1.1	280		25
44 405		124	0.9	111		45
44 406		81	1.0	92		30
44 407		190	1.3	747		50
44 408		121	1.1	428		55
44 409		122	1.0	371		144
44 410	(.006) 206	172	1.3	980	1000	62
44 411		127	1.4	583		7
44 412		89	0.9	442		26
44 413		110	1.2	513		33
44 414		186	1.5	1000*		56
44 415		153	1.3	764		102
44 416		134	1.4	471		2
44 417		263	1.6	637		263
44 418		178	1.2	557		37
44 419	(.018) 617	605*	53.9*	2360*	2300	540
44 420	(.008) 274	273	16.3*	1205*	1300	58
44 421		96	1.2	517		24
44 422		282	1.6	1370*		38

DDH-K-89-01

95' - 105'

190 - 195'

Certified by 



**MIN-EN LABORATORIES**

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CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
TELEX: VIA U.S.A. 7601087 • FAX (604) 980-9621

**TIMMINS OFFICE:**  
33 EAST IROUOIS ROAD  
P.O. BOX 887  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9S-0302-RG1

Company: EL CONDOR / ECE ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: OCT-26-89

- Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. CEC ENG., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted OCT-25-89 by M. HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	MO PPM
44 423	260	1.2	740	50
44 424	225	1.9	850	35
44 425	222	0.8	800	70
44 426	207	1.1	850	48
44 427 (0.006) 206	167	0.6	700	760 31
44 428	221	0.8	860	65
44 429	163	0.9	640	114
44 430	240	1.2	785	94
44 431	237	0.7	1000	55
44 432	198	0.6	710	148
44 433	320	1.1	1100	94
44 434	386	1.4	1350	125
44 435	225	0.6	900	70
44 436	280	0.8	1000	90
44 437 (0.018) 617	622	1.4	2050	2000 91
44 438 (0.014) 480	410	1.6	2100	1600 65
44 439	345	0.8	1300	150
44 440	217	1.0	725	85
44 441	261	1.2	1250	87
44 442	265	1.1	1450	310
44 443	320	2.0	1200	70
44 444	380	1.2	1100	154
44 445 (0.014) 480	257	1.0	900	44
44 446	506	1.2	2200	2200 730
44 447	237	0.8	1100	112
44 448	247	0.9	1350	95
44 449	390	1.2	2050	62
44 450 (0.012) 411	380	1.3	1900	106
44 451	365	1.8	2020	2000 120
44 452	320	1.2	1550	103

DDA-K-89-01

195' - 200'

275' - 285'

390 - 400'

466' - 472'

Certified by *Benjamin*

MIN-EN LABORATORIES

Geochemical Analysis Certificate

9S-0302-RG2

Company: EL CONDOR / ECE ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: OCT-26-89

- Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. DEC ENG., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 14 ROCK samples submitted OCT-25-89 by M. HOPLEY.

Sample Number	AL-FIRE PPB	AS PPM	CU PPM	MO PPM	
44 453	380	2.1	2250	320	
44 454	241	2.2	1100	285	
44 455	352	1.1	1600	92	↓ 500' EOH
02 44 456	8	0.6	20	20	DDH-K-89-02
44 457	21	0.4	19	8	
44 458	17	0.3	30	15	
44 459	20	0.3	30	27	
44 460	62	0.5	150	19	
44 461	84	0.5	330	7	
44 462	103	0.6	755	5	80'-90'
44 463	137	0.8	220	200	6
44 464	64	0.7	155	2	
44 465	62	1.1	345	4	
44 466	81	1.6	410	23	120'-130'

Certified by

MIN-EN LABORATORIES

Geochemical Analysis Certificate

9S-0314-RG1

Company: EL CONDOR RES/CEC ENGRG.  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: NOV-03-89

- Copy 1. EL CONDOR RESOURCES, VANCOUVER, B.C.  
2. CEC ENGRG., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR RESOURCES, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 20 ROCK samples submitted OCT-27-89 by M. HOPLEY.

Sample Number	AU-WET		AG PPM	CU PPM	MO PPM	DDH-K-89-02
	PPB	PPM				
44 467	<u>CHEMEX</u> 60		1.2	295	12	130'-140'
44 468	85		1.0	402	18	
44 469	165		1.1	920	7	
44 470	65		0.8	198	8	
44 471	100		1.0	433	2	
44 472	65		0.8	272	6	
44 473	60		1.0	860	21	
44 474	(.002) 68	35	1.0	172	100 44	
44 475	45		0.6	223	62	
44 476	85		0.7	420	35	
44 477	45		0.6	302	12	
44 478	60		0.5	187	13	
44 479	(.004) 137	85	0.6	254	200 130	
44 480	35		1.0	304	11	
44 481	105		1.0	676	8	
44 482	85		1.1	443	9	
44 483	55		0.9	362	2	
44 484	40		0.9	385	21	
44 485	35		0.8	322	17	
44 486	(.006) 205	175	1.2	531	400 33	

Certified by

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**MIN-EN LABORATORIES**

SPECIALISTS IN MINERAL ENVIRONMENTS  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5914 OR (604) 988-4624  
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9921

**TIMMINS OFFICE:**  
33 EAST IROQUOIS ROAD  
P.O. BOX 867  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9998

Geochemical Analysis Certificate

9S-0315-RG1

Company: EL CONDOR/CEC ENGINEERING  
Project: NEW CEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: OCT-29-89

- Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. CEC ENG., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS

We hereby certify the following Geochemical Analysis of 17 ROCK samples submitted OCT-25-89 by M. HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	MO PPM
	<u>CHEMEX</u>			
44 487	109	1.0	285	84
44 488	124	0.9	296	47
44 489	146	1.0	460	26
44 490	127	1.1	418	40
44 491	83	1.0	253	27
44 492	118	1.0	384	20
44 493	159	0.9	500	12
44 494	182	0.9	770	27
44 495	(1008) 274	1.0	890	900 35
44 496	167	0.7	590	25
44 497	119	0.6	248	57
44 498	149	0.7	490	35
44 499	160	0.7	355	84
44 500	142	0.8	397	34
44 501	120	0.8	440	18
44 502	109	0.8	288	48
44 503	(1004) 137	0.7	442	500 168

DDH-K-89-02

320-330

490' EOH

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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:  
33 EAST IROQUOIS ROAD  
P.O. BOX 887  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9995

## Geochemical Analysis Certificate

9S-0316-RG1

Company: EL CONDOR/CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: OCT-29-89

- Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. CEC ENGIN., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS.

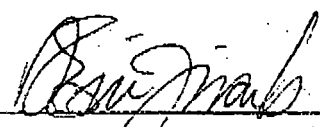
We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted OCT-25-89 by M. HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	MO PPM
44 504	280	1.4	207	85
44 505	194	1.2	86	140
44 506	187	0.6	79	44
44 507	236	1.3	1350	118
44 508	294	1.6	1950	235
44 509	239	1.6	1370	41
44 510	202	1.2	930	20
44 511	(.010) 343 297	1.3	1100	1100 206
44 512	284	1.2	1350	50
44 513	354	1.0	843	34
44 514	340	1.1	1500	25
44 515	269	1.2	1670	37
44 516	310	1.2	1290	22
44 517	325	1.5	1070	17
44 518	333	1.2	1620	48
44 519	351	1.2	1430	75
44 520	275	1.0	1250	118
44 521	206	0.8	752	545
44 522	265	1.0	1540	74
44 523	(.016) 548 519	1.2	1800	1900 74
44 524	309	1.0	1200	70
44 525	283	1.1	1470	80
44 526	261	1.0	930	38
44 527	280	1.1	800	39
44 528	329	1.4	1680	72
44 529	252	1.4	1070	115
44 530	239	1.1	940	21
44 531	283	1.0	1270	32
44 532	289	1.4	1020	44
44 533	(.010) 343 340	1.6	1140	1400 80 230-235'

DDH-k-89-03

90'-100'

Certified by



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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-5521

**TIMMINS OFFICE:**  
33 EAST IROQUOIS ROAD  
P.O. BOX 867  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9S-0316-RG2

Company: EL CONDOR/CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: OCT-28-89

- Copy 1, EL CONDOR, VANCOUVER, B.C.
- 2. CEC ENGIN., E/D JAYCOX, SMITHERS, B.C.
- 3. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 6 ROCK samples submitted OCT-25-89 by M.HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	MO PPM
44 534	302	1.4	1200	58
44 535	301	1.6	1450	53
44 536	217	1.2	725	45
44 537	242	1.8	1180	73
44 538	327	1.5	1450	64
44 539	313	1.8	1000	102

CHEMEX

DDH-K-89-03

265'-272'

Certified by *[Signature]*  
MIN-EN LABORATORIES

Geochemical Analysis Certificate

9S-G317-RG1

Company: EL CONDOR/CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: NOV-01-89

- Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. CEC ENGIN., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted OCT-27-89 by M. HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	MO PPM
44 540	<u>CHEMEX</u> 346	2.6	1635	124 272-279
44 541	338	2.4	1371	84
44 542	(.010) 343 355	2.1	1390 1700	224
44 543	352	1.5	1381	200
44 544	146	1.0	650	32
44 545	180	1.1	927	183
44 546	212	1.4	1085	110
44 547	266	1.3	1225	227
44 548	229	1.4	1151	146
44 549	138	0.8	399	132
44 550	159	1.3	697	84
44 551	(.020) 275	1.9	1540	55
44 552	685 556	2.8	2745 3000	160
44 553	289	2.2	1461	120
44 554	14	0.9	136	9
44 555	1	1.1	27	3
44 556	1	0.8	31	5
44 557	3	0.8	28	6
44 558	1	0.7	24	5
44 559	3	0.9	35	8
44 560	3	1.1	29	4
44 561	(.020) 302	2.3	1293	50
44 562	685 604	4.6	3395 3000	115
44 563	346	3.3	1945	90
44 564	(.014) 480 426	2.8	2180 2100	80
44 565	436	3.1	2160	157
44 566	(.010) 343 311	2.0	1350 1500	45
44 567	357	2.7	2310	60
44 568	328	2.5	1379	53
44 569	(.014) 480 323	2.6	2005 2000	51 455' - 460'

Certified by

*Ben J. Smith*

MIN-EN LABORATORIES

Geochemical Analysis Certificate

9S-0317-RG2

Company: EL CONDOR/CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: NOV-01-89

- Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. CEC ENGIN., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted OCT-27-89 by M. HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	MO PPM
	<b>CHENEX</b>			
44 570	269	2.9	1167	100
44 571	299	2.7	1342	62
44 572 (-0.12)	411 296	2.8	1425 1800	125
44 573	157	1.1	185	74
44 574	124	0.7	118	116
44 575 (-0.008)	274 273	1.2	1462 1200	76
44 576	173	1.8	775	37
44 577	203	1.9	1103	75
44 578	206	1.7	906	48
44 579	235	1.6	1231	78
44 580	156	1.6	641	53
44 581	119	1.7	255	25
44 582	220	1.6	732	41
44 583	280	2.3	966	43
44 584 (-0.008)	274 205	2.1	684 800	48
44 585	207	1.7	977	45
44 586	192	1.6	743	24
44 587	284	1.9	880	25
44 588	265	1.9	962	80
44 589	315	1.8	1461	49
44 590	117	1.3	557	27
44 591	23	1.0	80	7
44 592	377	2.1	1476	324
44 593	316	2.5	1142	132
44 594 (-0.016)	578 438	2.7	1684 2000	110
44 595	269	1.9	882	125
44 596	336	2.4	1131	170
44 597	277	2.8	932	102
44 598	198	3.3	420	245
44 599	219	3.4	938	85

476' EOH

DDA-K-89-04

180' - 185'

Certified by

# MIN-EN LABORATORIES

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TELEPHONE: (604) 980-6314 OR (604) 988-4524  
TELEX: VIA U.S.A. 780 1067 • FAX: (604) 980-9821

TIMMINS OFFICE:  
33 EAST IROQUOIS ROAD  
P.O. BOX 867  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9998

## Geochemical Analysis Certificate

9S-0317-RG3

Company: EL CONDOR/CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND/M. HOPLEY

Date: NOV-01-89

Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. CEC ENGIN., C/O JAYCOX, SMITHERS, B.C.  
3. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 31 ROCK samples submitted OCT-27-89 by M. HOPLEY.

Sample Number	AU-FIRE PPB	AG PPM	CU PPM	MO PPM		
<i>CHEMEX</i>						
44 600	(.010) 343	182	2.0	936	83	185' — 190'
44 601		309	2.4	1105	1400	140
44 602		321	2.5	1310		125
44 603		3	0.6	43		6
44 604	(.022) 754	628	3.3	3190	3000	122
44 605	(.012) 411	550	2.6	2605	2500	153
44 606	(.010) 343	295	2.1	1240	1500	114
44 607		2	1.1	36		10
44 608	(.016) 549	443	2.9	1365	1700	113
44 609	(.014) 480	390	2.3	1410	1400	210
44 610		225	1.6	1115		150
44 611		199	1.9	973		124
44 612		356	2.7	2290		140
44 613		254	2.2	933		195
44 614		347	2.4	1130		80
44 615		141	1.8	987		58
44 616		96	1.8	603		44
44 617		112	1.9	647		15
44 618		89	2.0	413		25
44 619		291	1.7	1305		12
44 620	(.014) 480	421	3.1	2205	2100	200
44 621		410	2.9	1556		145
44 622		261	2.3	846		85
44 623	(.014) 480	399	2.6	2110	2200	52
44 624		165	1.9	781		75
44 625		227	1.9	827		68
44 626		94	2.0	562		44
44 627		118	1.9	761		47
44 628		164	2.0	860		61
44 629	(.006) 206	172	2.4	903	900	21
44 630		235	1.6	581		5 368' — 375'

Certified by

MIN-EN LABORATORIES

Geochemical Analysis Certificate

9S-0324-RG1

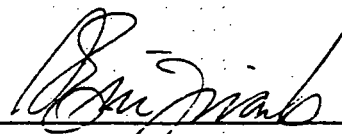
Company: EL CONDOR / CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND

Date: NOV-03-89  
Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted OCT-31-89 by M.HOPLEY.

Sample Number	AU-WET PPB	AG PPM	CU PPM	MO PPM	
	<i>CHEMEX</i>				
44 631	60	1.0	426	47	
44 632	80	1.5	379	21	
44 633	200	1.6	960	101	
44 634	160	2.2	1127	53	
44 635	120	2.1	739	80	
44 636	65	1.0	415	14	
44 637	180	1.3	801	85	
44 638	(.008) 274	2.0	1063	1200	405
44 639	175	1.6	962	47	
44 640	140	1.4	827	27	
44 641	105	1.4	670	22	
44 642	100	1.2	472	21	
44 643	100	1.3	777	28	
44 644	(.006) 206	0.9	740	900	18
44 645	100	0.9	441	6	500' EOH DDH-K-89-05
44 646	45	1.0	318	4	
44 647	80	0.9	201	36	
44 648	40	0.6	92	20	
44 649	40	0.7	129	15	
44 650	60	0.7	296	5	95'-100'
44 651	60	1.1	413	3	
44 652	85	1.7	436	2	
44 653	40	1.1	284	2	
44 654	55	0.9	315	8	
44 655	(.004) 137	1.2	282	300	2
44 656	115	1.1	415	1	
44 657	80	0.9	500	10	
44 658	65	1.0	341	9	
44 659	80	1.0	406	10	
44 660	170	1.5	619	42	145'-150'

Certified by



Geochemical Analysis Certificate

9S-0324-RG2

Company: EL CONDOR / CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND

Date: NOV-03-89  
Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. EL CONDOR, C/O MIN-EN LABS.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted OCT-31-89 by M.HOPLEY.

Sample Number	AU-WET PPM	AG PPM	CU PPM	MO PPM
44 661	140	1.4	543	79
44 662	115	1.4	400	13
44 663	105	1.6	445	12
44 664	140	1.6	427	15
44 665 (006) 206	165	1.6	531	35
<hr/>				
44 666	220	1.9	723	192
44 667	105	1.7	407	14
44 668	120	1.7	469	7
44 669	125	2.1	346	27
44 670	65	1.8	170	10
<hr/>				
44 671	185	2.3	497	20
44 672	180	2.0	497	19
44 673	175	2.1	758	15
44 674	155	2.1	566	66
44 675	80	1.7	184	12
<hr/>				
44 676	120	1.3	546	2
44 677	240	1.1	940	48
44 678 (010) 343	300	1.2	1277	1600
44 679	175	1.1	694	33
44 680	220	1.4	988	88
<hr/>				
44 681	165	1.4	754	75
44 682	200	1.6	579	63
44 683	180	1.2	907	107
44 684 (008) 274	400	1.4	1103	1400
44 685 (012) 411	600	1.3	1462	1900
<hr/>				
44 686	195	1.2	492	10
44 687	180	1.3	681	60
44 688	260	1.6	740	88
44 689	175	1.3	710	21
44 690	200	1.2	738	20

150-155'

220-225'

295-300'

Certified by *[Signature]*  
MIN-EN LABORATORIES

Geochemical Analysis Certificate

9S-0324-RG3

Company: EL CONDOR / CEC ENGINEERING  
Project: NEW KEMESS  
Attn: D. COPELAND

Date: NOV-03-89  
Copy 1. EL CONDOR, VANCOUVER, B.C.  
2. EL CONDOR, C/O MIN-EN LABS.

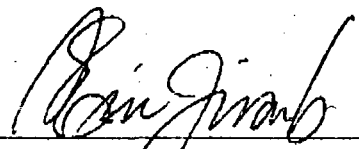
We hereby certify the following Geochemical Analysis of 26 ROCK samples submitted OCT-31-89 by M. HOPLEY.

Sample Number		AU-WET PPB	AG PPM	CU PPM	MO PPM	
44 691	(.012) 411	350	1.3	1636	2000	57
44 692		160	1.6	842		90
44 693		135	1.6	579		12
44 694	(.006) 206	205	1.4	687	900	4
44 695		180	1.5	741		85
44 696		140	1.2	699		60
44 697		195	1.4	962		61
44 698		160	1.3	683		76
44 699		295	1.0	1163		247
44 700		160	1.2	736		205
44 701		100	0.8	658		44
44 702		75	0.6	386		200
44 703		85	0.4	223		440
44 704	(.006) 206	140	1.2	678	800	88
44 705		120	1.0	762		102
44 706		165	1.1	1030		101
44 707		200	1.0	1054		126
44 708		205	1.4	965		56
44 709		240	1.4	1205		475
44 710		140	1.8	690		62
44 711		220	1.6	1152		204
44 712	(.012) 411	320	2.0	1824	2100	225
44 713		240	1.4	1444		97
44 714		260	1.2	1212		53
44 715		240	1.9	1251		195
44 716	(.008) 274	230	1.6	1242	1200	39

300 - 305'

375 - 380'

430 - 435' EOH

Certified by 



**APPENDIX III**

**Chemex Labs Ltd.**

**Certificate of Analysis**



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 BROOKSBANK AVE., NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0121

CEC ENGINEERING LTD.

1270 - 601 W. HASTINGS ST.  
VANCOUVER, BC  
V6R 5A6

Project :

Comments: ATTN: MICHAEL HOPLBY

Page : 1  
Tot. Pages: 2  
Date : 16-NOV-89  
Invoice #: I-8929958  
P.O. # :

## CERTIFICATE OF ANALYSIS A8929958

SAMPLE DESCRIPTION	PREP CODE	Au oz/T	Ag oz/T	Cu %	Mb %						
44401	207 ---	0.006	0.06	0.09	0.005						
44410	207 ---	0.006	0.01	0.10	0.006						
44419	207 ---	0.018	1.81	0.23	0.042						
44420	207 ---	0.008	0.58	0.13	0.007						
44427	207 ---	0.006	0.01	0.07	0.004						
44437	207 ---	0.018	0.02	0.20	0.008						
44438	207 ---	0.014	0.02	0.16	0.008						
44446	207 ---	0.014	0.04	0.22	0.054						
44451	207 ---	0.012	0.04	0.20	0.010						
44455	207 ---	0.010	0.03	0.17	0.008						
44463	207 ---	0.004	0.01	0.02	< 0.001						
44474	207 ---	0.002	0.01	0.01	0.005						
44479	207 ---	0.004	VVV	0.02	0.009						
44486	207 ---	0.006	VVV	0.04	0.001						
44495	207 ---	0.008	V	0.09	0.004						
44503	207 ---	0.004	V	0.05	0.015						
44511	207 ---	0.010	0.01	0.11	0.018						
44523	207 ---	0.016	0.02	0.19	0.005						
44533	207 ---	0.010	0.03	0.14	0.004						
44542	207 ---	0.010	0.03	0.17	0.021						
44552	207 ---	0.020	0.07	0.30	0.015						
44562	207 ---	0.020	0.07	0.30	0.010						
44564	207 ---	0.014	0.05	0.21	0.005						
44566	207 ---	0.010	0.04	0.15	0.003						
44569	207 ---	0.014	0.05	0.20	0.004						
44572	207 ---	0.012	0.04	0.18	0.006						
44575	207 ---	0.008	0.02	0.12	0.008						
44584	207 ---	0.008	0.02	0.08	0.003						
44594	207 ---	0.016	0.04	0.20	0.007						
44601	207 ---	0.010	0.04	0.14	0.011						
44604	207 ---	0.022	0.08	0.30	0.011						
44605	207 ---	0.012	0.05	0.25	0.015						
44606	207 ---	0.010	0.04	0.15	0.009						
44608	207 ---	0.016	0.04	0.17	0.010						
44609	207 ---	0.014	0.04	0.19	0.027						
44620	207 ---	0.014	0.05	0.21	0.026						
44623	207 ---	0.014	0.04	0.22	0.009						
44629	207 ---	0.006	0.02	0.09	0.003						
44638	207 ---	0.008	0.04	0.12	0.032						
44644	207 ---	0.006	0.02	0.09	0.003						

CERTIFICATION :

0004 004 0410  
CHEMEX LABS  
0004



# Chemex Labs Ltd.

Analytical Chemists + Geochemists + Registered Assayers

212 BROOKSDANK AVENUE, NORTH VANCOUVER,  
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

CEC ENGINEERING LTD.

1270 - 601 W. HASTINGS ST.  
VANCOUVER, BC  
V6B 5A6

Project :

Comments: ATTN: MICHAEL HOMLEY

\* Page : 2  
Tot. Pages: 2  
Date : 16-NOV-89  
Invoice #: I-8929958  
P.O. # :

## CERTIFICATE OF ANALYSIS A8929958

SAMPLE DESCRIPTION	PREP CODE	Au oz/T	Ag oz/T	Cu %	Mo %						
44655	207 ---	0.004	< 0.01	0.03	< 0.001						
44665	207 ---	0.006	0.01	0.05	0.002						
44678	207 ---	0.010	0.02	0.16	0.005						
44684	207 ---	0.008	0.01	0.14	0.008						
44685	207 ---	0.012	0.02	0.19	0.009						
44691	207 ---	0.012	0.02	0.20	0.010						
44694	207 ---	0.006	0.01	0.09	0.004						
44704	207 ---	0.006	0.01	0.08	0.008						
44712	207 ---	0.012	0.04	0.21	0.024						
44716	207 ---	0.008	0.03	0.12	0.005						

CERTIFICATION : \_\_\_\_\_

CHEMEX LABS 0170 FOR 8000 06/07/90

**APPENDIX IV**  
**Analytical Procedures**



**MINERAL  
• ENVIRONMENTS  
LABORATORIES LTD.**

ANALYTICAL PROCEDURE REPORT FOR ASSESSEMENT WORK:

PROCEDURE FOR Au, Pt, Pd Fire Geochem

Geochemical samples for Au Pt Pd are processed by Min-En Laboratories., at 705 West 15th St., North Vancouver, B.C., laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 15.00 or 30.00 grams are fire assayed preconcentrated.

After pretreatments the samples are digested with aqua regia solution, and after digestion the samples are taken up with aqua regia to suitable volume.

With a set of suitable standard solution gold is analysed by sequential inductively coupled plasma analyser along with Pt and Pd.



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Geochemists

Registered Assayers

212 Brookebank Ave.  
North Vancouver, B.C.  
Canada V7J 2C1

Phone: (804) 984-0221

Telex: 04-352597

Fax: (804) 984-0218

Assay Pulverize (Precious Metals) - Chemex Code 207

Geochem Pulverize (Precious Metals) - Chemex Code 212

- entire sample is crushed in jaw crusher to approx. 3/4".
- sample is crushed in gyratory cone crusher to approx. 1/8".
- sample is split in Jones Riffler to 250-350gms.
- split is ground in rotary pulverizer and screened to -140 mesh and +140 materials is visually checked for metallics.
- if no metallics are present, the +140 is hand ground to -140 and entire sample is rolled.
- if metallics are present, they are assayed separately from the sample.



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Silver (385, 386 /oz/t, g/t)

A 2 gram sample is digested in aqua regia and taken to dryness. The residue is dissolved in dilute HCl and transferred to a volumetric flask. After cooling to room temperature and making to volume the solution is run on the A.A. against matched matrix standards of known Ag content. The detection limit is 0.01 oz/t or 0.5 g/t.



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Au (oz/T) : Code 398

Gold analysis is carried out by standard fire assay techniques. In the sample preparation stage the screens are checked for metallics which, if present, are assayed separately and calculated into the results obtained from the pulp assay.

0.5(14.583 g) or 1 (29.166 gm) assay ton sub samples are fused in litharge, carbonate and silicious fluxes. The lead button containing the precious metals is cupelled in a muffle furnace. The resulting inquarted bead is parted, dissolved in Aqua Regia and dilute. The solution is run on an atomic absorption against known aqueous standard for gold content.





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*Registered Assayers*

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Cu % - Chemex Code 301

A 2 gram subsample is digested in a hot perchloric-nitric acid mixture for two hours, cooled, then transferred into a 250 ml volumetric flask. The solution is then analyzed on an atomic absorption instrument.



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Canada            V7J 2C1

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Fax:       (804) 984-0218

Mo % (Total) - Chemex Code 306

A 2 gm sample of pulp is digested for 2 hours in a mixture of HClO<sub>4</sub> and HNO<sub>3</sub> acids. The beakers are then cooled and the acid solution is diluted with de-ionized water. This solution is heated, then transferred into a 250 ml volumetric flask containing 10 ml of AlCl<sub>3</sub>·7H<sub>2</sub>O which is used as an ionization suppressent.

After cooling, the solution is mixed and analyzed on an A.A.5 spectrophotometer at 3133deg. using a nitrous oxide-acetylene flame.