

LOG NO: 01-09	RD.
ACTION:	
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ASSESSMENT REPORT
 for
1990 DIAMOND DRILLING
 on the
SOUTH KEMESS PROPERTY
OMENICA MINING DIVISION
BRITISH COLUMBIA
N.T.S. 94 E / 2
 Latitude 57° 02' North *02*
 Longitude 126° 44' West

Claim Name	Record No.	No. of Units	Record Date
Ron 4	3630	20	Mar. 3, 1981
Ron 10	5850	20	Oct. 5, 1983
Ron 11	5851	20	Oct. 5, 1983

- Prepared For -

EL CONDOR RESOURCES LTD.

Suite 700 - 1177 West Hastings Street
 Vancouver, British Columbia V6E 2K3
 (604) 684 - 6328

- Prepared By -

C.E.C. ENGINEERING LTD.

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

December 27, 1990

D. J. Copeland, P. Eng.

**LOGICAL BRANCH
ASSESSMENT REPORT**

20,759

GEOLOGICAL BRANCH
 ASSESSMENT REPORT
 D.J. Copeland
 BRITISH COLUMBIA
 P. Eng.

D. J. Copeland

TABLE OF CONTENTS

	Page No.
INTRODUCTION.....	1 /
SUMMARY.....	2 /
LOCATION AND ACCESS.....	3 /
CLAIM DATA AND OWNERSHIP.....	5 /
PHYSIOGRAPHY.....	5 /
HISTORY.....	7 /
REGIONAL GEOLOGY.....	8 /
PROPERTY GEOLOGY.....	12 /
1990 DIAMOND DRILLING.....	17 /
DISCUSSION OF RESULTS.....	20
CONCLUSIONS and RECOMMENDATIONS.....	20 /
STATEMENT OF COSTS.....	21 /
STATEMENT OF QUALIFICATIONS.....	22
BIBLIOGRAPHY.....	23 /

APPENDICES

Appendix I	Diamond Drill Geological Log ✓
Appendix II	Min-En Laboratories Ltd.- Certificate of Assay ✓
Appendix III	Analytical Procedures ✓

LIST OF ILLUSTRATIONS

Figure No.		Page No.
1	Location Map, 1:10,000,000.....	4
2	Claim Map, 1:50,000.....	6
3	Regional Geology Map, 1:125,000.....	10
4	Regional Geology Legend.....	11
5	Diamond Drilling Plan, 1:5,000.....	18
6	Drill Cross-Section, 90-01, 1:5,000.....	19

INTRODUCTION

The **SOUTH KEMESS** property is comprised of the Ron 4, Ron 10 and Ron 11 mineral claims, totalling 60 units. It is located in the southern part of the Toodoggone mining camp in the Omineca Mining Division, northcentral British Columbia.

During the 1990 field season, El Condor Resources Ltd. employed C.E.C. Engineering Ltd. to manage and supervise diamond drilling on the claims. 1 NQ size hole totalling 215.5 metres was drilled, split and sampled. 103 core samples were sent to Min-En Labs in Vancouver, B.C. for Cu and Au assays. This report discusses the diamond drilling results.

SUMMARY

The South Kemess property, comprised of the Ron 4, Ron 10 and Ron 11 mineral claims, is situated 7 kilometres east of Thutade Lake, or 265 kilometres north of Smithers, in northcentral British Columbia. Geographic coordinates are 57° 04' North latitude by 126° 44' West longitude(N.T.S. 94E/2).

Access is possible via the Omineca Mine road which leads north from Fort St. James and passes 12 kilometres west of the the property. El Condor Resources Ltd. has constructed a 16 kilometre tote road between the Omineca road and the property.

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

The Ron 4 claim is jointly owned by St. Philips Resources Inc.(75%) and Stork Ventures Ltd.(25%) and is under option to El Condor Resources Ltd.

The Ron 10 and Ron 11 claims are owned by Arcanna Industries Corp.(100%) and are under option to El Condor Resources Ltd. All companies involved are located in Vancouver, B.C.

During the 1990 field season, El Condor Resources Ltd. employed C.E.C. Engineering Ltd. to manage and supervise diamond drilling on the claims. 1 NQ size hole totalling 215.5 metres was drilled, split and sampled. 103 core samples were sent to Min-En Labs in Vancouver, B.C. for Cu and Au assays.

CONCLUSIONS and RECOMMENDATIONS

The 1990 diamond drilling program tested coincident geological, geochemical and geophysical anomalies. Despite the drill hole not intersecting any significant copper-gold values, the alteration zones and rock type encountered are typical of those associated with porphyry Cu-Au deposits.

Further detailed drilling to test the remaining geochemical and geophysical targets should be carried out to identify any further alteration zones and subsequent Cu-Au bearing zones on the property.

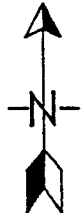
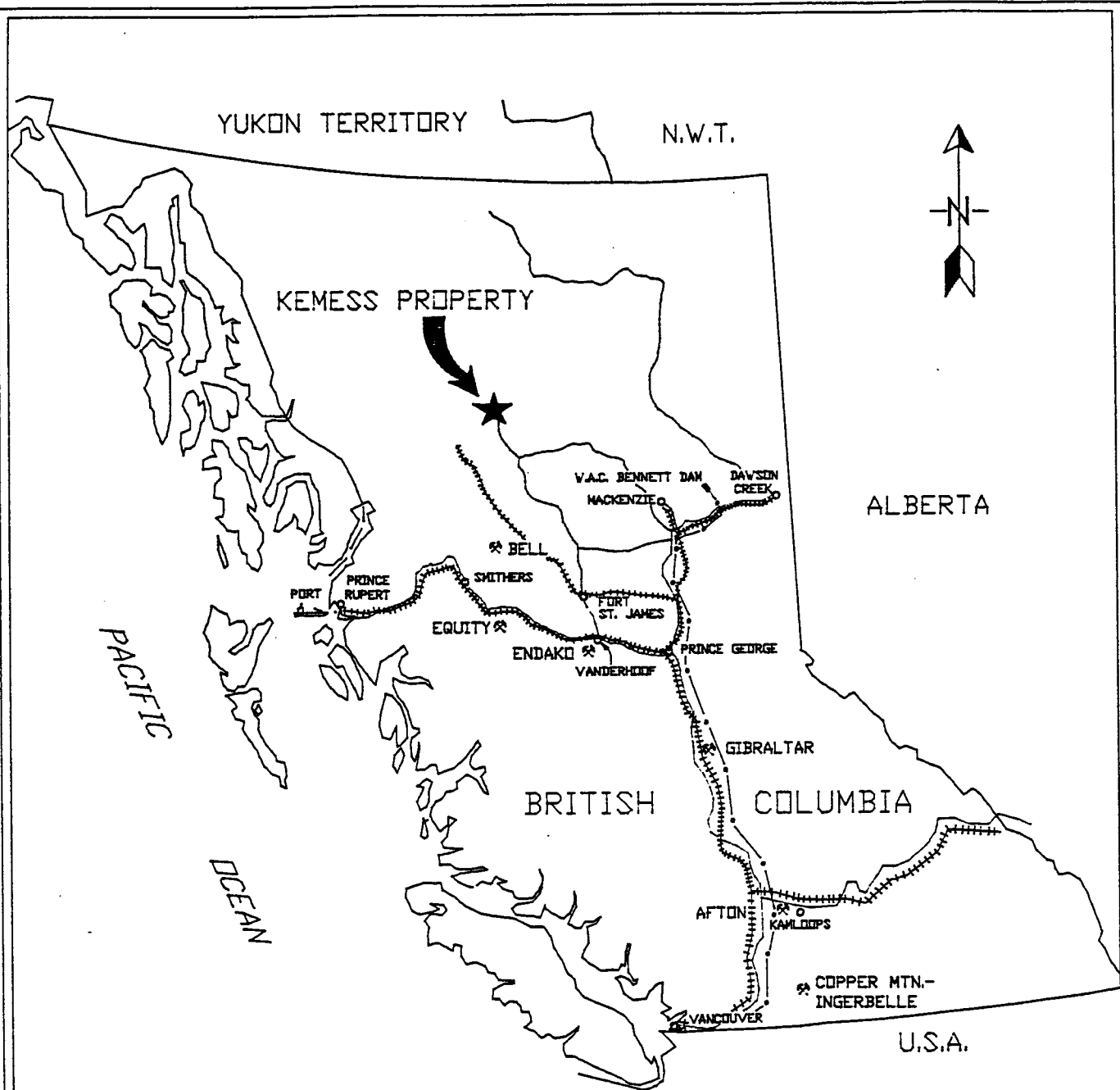
Encouraging drilling results would warrant the expansion of the geophysical and geochemical grids.

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).

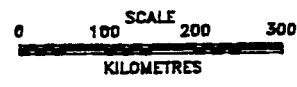
Access is possible via the Omineca Mine road which leads north from the town of Fort St. James and passes 12 kilometres west of the property, or approximately 650 kilometres by road from the city of Prince George. In October, 1989, El Condor Resources Ltd. constructed a 16-kilometre tote road between 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.



LEGEND

- ROAD
- +++ RAILWAY
- MAJOR POWER LINE
- * PRODUCING PORPHYRY MINES



C.E.C. ENGINEERING LTD.

KEMESS PROPERTY

LOCATION MAP

SCALE: AS SHOWN	DRAWN BY: ProComp GeoDraft Ltd.	FILE:
DATE: SEPT. 80	REVISED:	FIGURE:

Property and Ownership

The property is located in the Omineca Mining Division of north central British Columbia. It is comprised of three 20 unit mineral claims, totalling 60 units. The configuration of the claims is shown in Figure 2. All pertinent claim data are summarized in the following table.

Claim Name	Record No.	Units	Record Date	Expiry Date
Ron 4	3630	20	Mar 3, 1981	Mar 3, 1995
Ron 10	5850	20	Oct 5, 1983	Oct 5, 1991
Ron 11	5851	20	Oct 5, 1983	Oct 5, 1991

The Ron 4 mineral claim is jointly owned by Stork Ventures Ltd. (25%), St. Philips Resources Inc. (75%) and under option to El Condor Resources Ltd. of Vancouver, B.C.

The Ron 10 and Ron 11 mineral claims are owned by Arcanna Industries Corp. (100%) and are under option to El Condor Resources Ltd.

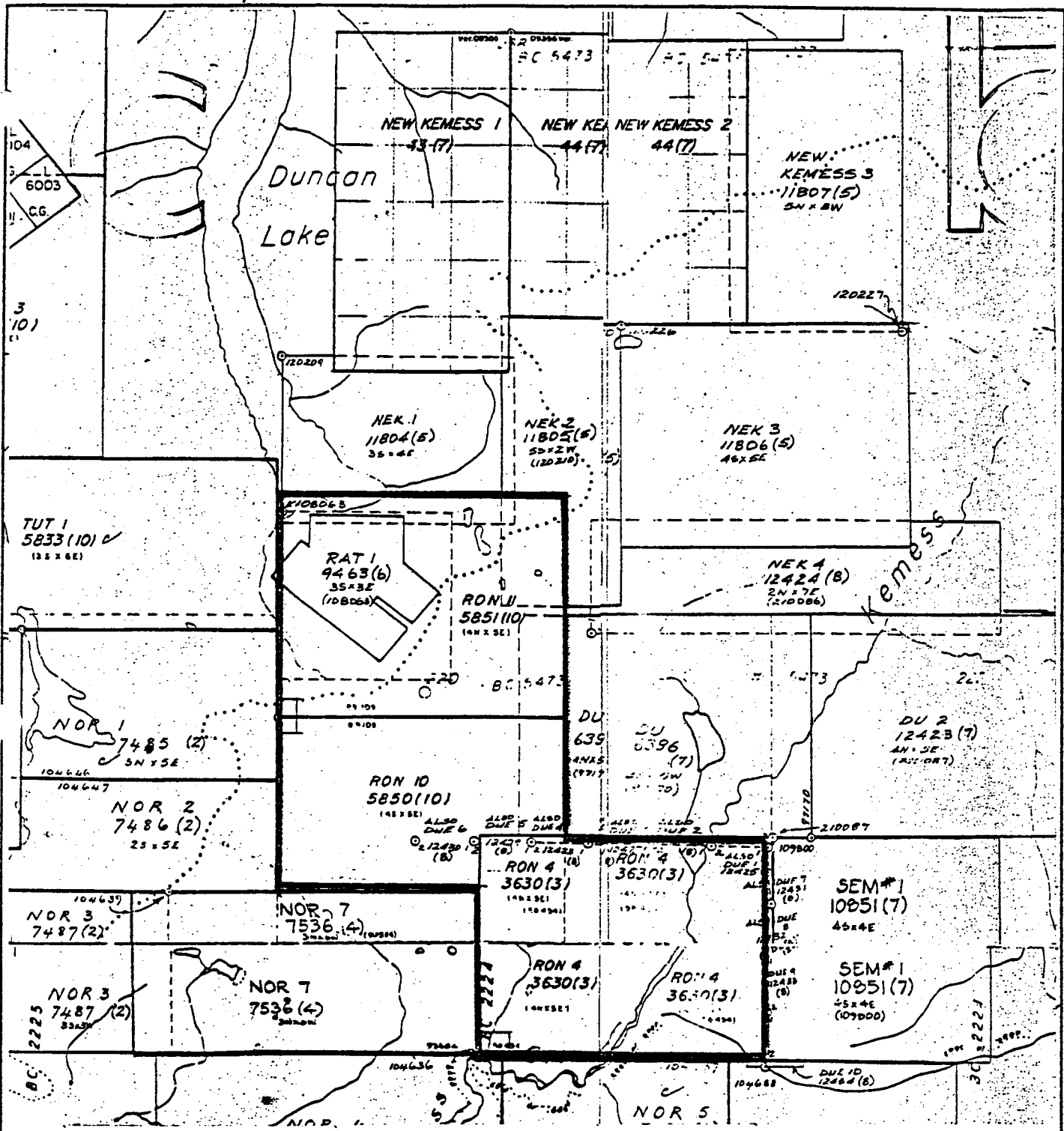
El Condor Resources is the operator under the option agreements.

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° and +25° 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.



EL CONDOR RESOURCES LTD.	
KEMESS PROPERTY	
CLAIM MAP LOCATION & ACCESS	
 <small>METERS SCALE</small>	
<small>FILED</small>	<small>DATE</small>
<small>March 26, 1990</small>	<small>FILE 2</small>

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 Ron 4 claim was part of a property staked in 1981 while the Ron 10 and Ron 11 were staked in 1983. In 1984, soil, magnetometer, and IP surveys (13 line kms) were conducted over a portion of the Ron 4 for Pacific Ridge Resources.

In the fall of 1984, the area was tested by 323 metres of diamond drilling in six holes which revealed stockwork porphyry gold-copper-molybdenum mineralization

In 1987, a detailed fill-in soil survey and VLF-EM survey conducted over the area encompassed by the 1984 cut grid revealed a large copper anomaly.

In 1988, 775 metres of diamond drilling was completed in 15 holes to test geochem and geophysical targets. Encouraging Cu-Au values over significant widths were intersected in several holes and the known extent of the porphyry mineralization was expanded.

In 1990, El Condor Resources negotiated an option agreement with St. Philips Resources Inc., Stork Ventures Ltd., and Arcanna Industries Ltd. for the claims.

GEOLOGICAL 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.

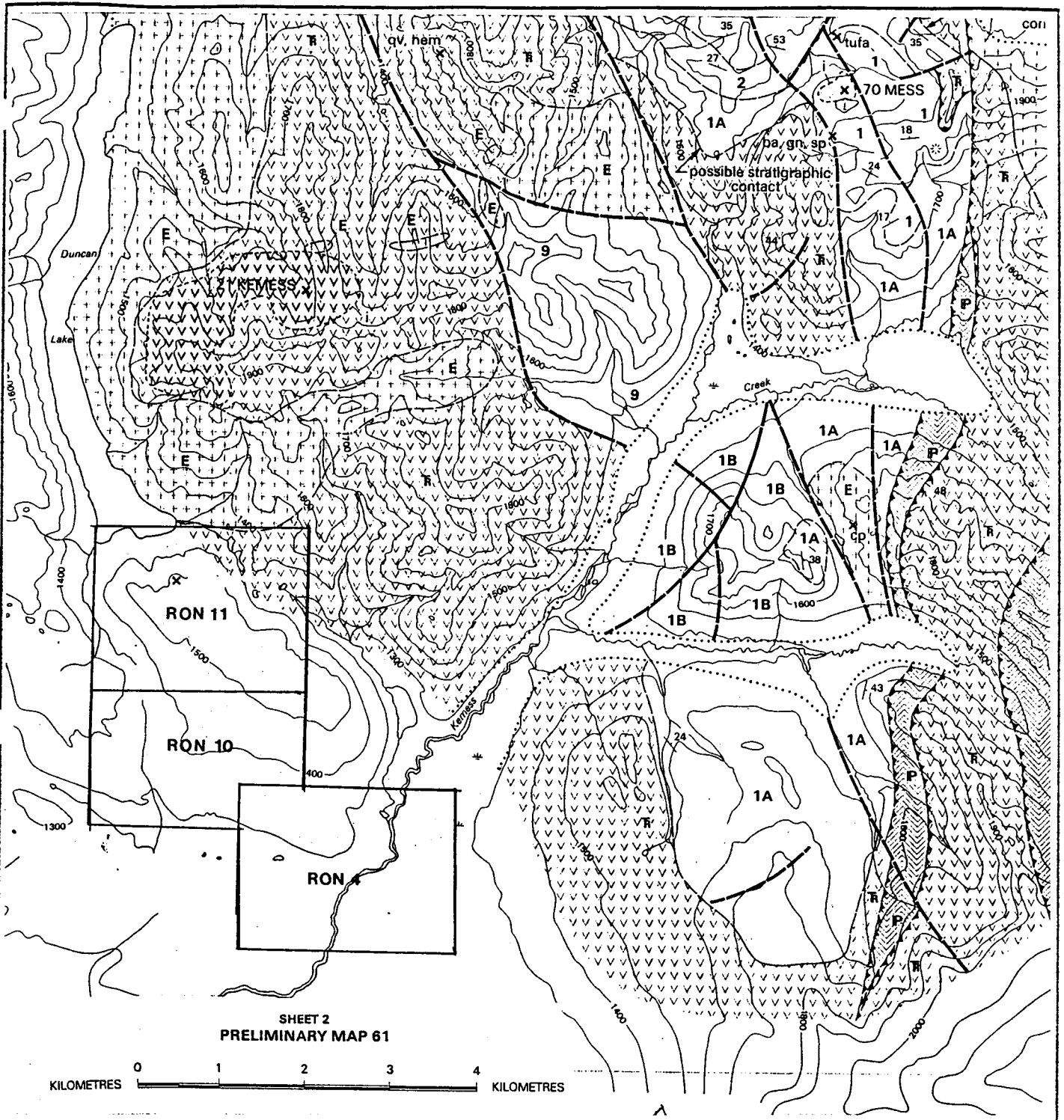
The Sustut Group dips 12 degrees to the southwest, and does not appear to have undergone any major structural disruptions.

The Toodoggone District is widely known for its precious-metal and copper mineralization. Both the Takla and Toodoggone volcanics host epithermal and porphyry style gold-copper 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.

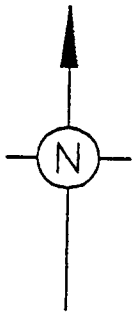
According to Forester (1984), in the case of epithermal systems the silicified and mineralized zones range in width from a few millimetres to tens of metres, and usually pinch and swell along their length. The fracture controlled mineralization tends to be more abundant within the more competent volcanic 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.

Porphyry style copper-bearing sulphide mineralization occurs dominantly within the Takla Group volcanics and in alkaline intrusives. These intrusives may be monzonite to granodiorite in composition and may be in the form of dykes, sills or small stocks. Mineralization 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.



SHEET 2
PRELIMINARY MAP 61



EL CONDOR RESOURCES LTD.	
KEMESS PROPERTY	
REGIONAL GEOLOGY	
FILE NUMBER	NO. 3

PLEISTOCENE AND RECENT

UNCONSOLIDATED GLACIAL, FLUVIOGLACIAL, ALLUVIAL, AND COLLUVIAL DEPOSITS

CRETACEOUS

UPPER CRETACEOUS

SUSTUT GROUP (TANGO CREEK FORMATION)

POLYMIC TIC CONGLOMERATE, SANDSTONE, SHALE, CARBONACEOUS MUDSTONE

JURASSIC

LOWER AND (?) MIDDLE JURASSIC

"TODODOGONE VOLCANICS" - (?) HAZELTON GROUP

UNDIVIDED PREDOMINANTLY GREY GREEN, PURPLE AND ORANGE-BROWN HORNBLENDE PLAGIOCLASE AND PLAGIOCLASE PHYRIC ANDESITE PORPHYRY FLOWS, TUFFS, BRECCIA, SOME LAHAR, CONGLOMERATE, GREYWACKE, SILTSTONE, RARE PHYCLITE-PERLITE. INCLUDES SOME DYKES AND SILLS

LOWER TO MIDDLE JURASSIC

"TODODOGONE VOLCANICS" (CARTER, 1972)

'GREY DACITE'

DARK TO PALE GREY OR GREEN QUARTZOSE BIOTITE HORNBLENDE PLAGIOCLASE ASH FLOWS OF ANDESITIC AND RARELY DACITIC COMPOSITION. VARIABLY WELDED WITH LOCALLY WELL-DEVELOPED COMPACTION LAYERING. CONTAINS ABUNDANT GREY DACITE AND RARE GRANITIC CLASTS; OUTCROPS ARE COMMONLY BLOCKY AND STRONGLY JOINTED

182 ± 8, 183 ± 8 Ma (GSC) HORNBLENDE

POLYMIC TIC CONGLOMERATE WITH ABUNDANT TAKLA AND GREY DACITE CLASTS IN A QUARTZOSE SANDSTONE MATRIX

GREYWACKE, CONGLOMERATE DERIVED ENTIRELY FROM GREY DACITE

TODODOGONE CRYSTAL ASH TUFFS AND FLOWS

RECESSIVE, GREY MAUVE, PURPLE QUARTZOSE PLAGIOCLASE CRYSTAL TUFF, LAPILLI TUFF, AND BRECCIA, WITH LESSER AGGLOMERATE, LAHAR, AND EPICLASTIC BEDS. INCLUDES SOME WELDED TUFFS AND PYROXENE HORNBLENDE FELDSPAR PORPHYRY FLOWS WHICH ARE LOCALLY DOMINANT; SOME MEMBERS CONTAIN NO QUARTZ. PINK WEATHERING WHERE LAUMONTITE IS ABUNDANT

189 ± 6 Ma HORNBLENDE

EPICLASTIC RED BEDS - ARKOSIC SANDSTONE, SILTSTONE, CONGLOMERATE, AND SLIDE DEBRIS; CONTAINS SOME CRYSTAL TUFF

TUFF PEAK FORMATION

PALE PURPLE, GREY, AND GREEN BIOTITE AUGITE HORNBLENDE PLAGIOCLASE PORPHYRY FLOWS; SOME AUTOBRECCIATED FLOWS, MINOR SILLS AND PLUGS, SOME CRYSTAL AND LAPILLI TUFF

197 ± 7 Ma BIOTITE
200 ± 7 Ma HORNBLENDE

CONGLOMERATE OR LAHAR DERIVED FROM UNITS 8 AND 8B, WITH GRADED AND CROSSLAMINATED MUDSTONE AND SANDSTONE INTERBEDS; DEBRIS FLOWS, LAPILLI AND CRYSTAL TUFFS

FLOWS SIMILAR TO UNIT 8 BUT CONTAINING SPARSE ORTHOCLASE MEGACRYSTS

McCLAIR CREEK FORMATION

PURPLE, LAVENDER, GREY, RARELY GREY-GREEN, "CROWDED" FINE TO MEDIUM-GRAINED PLAGIOCLASE PORPHYRY FLOWS; INCLUDES SOME LAPILLI TUFF, BRECCIA, AND MINOR EPICLASTIC BEDS

INTRUSIVE DOME WITH AUTOBRECCIATED CARAPACE AND FLANKING BRECCIA

MAFC FLOW AND TUFF UNIT

BASALT FLOWS—THIN BEDDED, PURPLE TO DARK GREEN, COMMONLY EPIDOTIZED, FINE-GRAINED PYROXENE BASALT FLOWS AND TUFFS; INCLUDES SOME SILLS AND DYKES

PURPLE TO MAUVE, MEDIUM-GRAINED PORPHYRYTIC BASALT; LOCALLY MAUVE TO PINK, ZEOLITIZED WITH LAUMONTITE, POSSIBLE INTRUSIVE (LACCOLITH)

LAPILLI, CRYSTAL, AND ASH TUFF; WELL BEDDED, INCLUDES MINOR THINLY BEDDED SANDSTONE AND RARE CALCAREOUS SILTSTONE (MARL) TOTALLY OR IN PART EQUIVALENT TO UNIT 7

PYROXENE BIOTITE HORNBLENDE PORPHYRY FLOWS WITH TRACES OF QUARTZ AND FELDSPAR; INTERBEDDED MINOR BRECCIA AND LAPILLI TUFF, TOTALLY OR IN PART EQUIVALENT TO UNIT 6

LOWER TO MIDDLE JURASSIC (CONTINUED)

"TODODOGONE VOLCANICS" (CARTER, 1972) (CONTINUED)

LAYERS—METSANTAN QUARTZOSE ANDESITE

GREEN TO GREY QUARTZOSE PYROXENE (?) BIOTITE HORNBLENDE PLAGIOCLASE PORPHYRY FLOWS AND TUFFS. QUARTZ CONTENT RANGES FROM NEGLIGIBLE TO ABOUT 3 PER CENT IN THE NORTH FLOWS PREDOMINATE WITH LOCAL FLOW BRECCIA, LAPILLI TUFF, AND RARE WELDED TUFF UNITS. TOWARD THE SOUTH ASH FLOWS ARE COMMON, INCLUDING RARE SURGE DEPOSITS. THE UNIT CONTAINS EXTENSIVE ZONES OF EPIDOTIZED, PHYRIC ROCK WITH CHARACTERISTIC SALMON, PINK, AND ORANGE PLAGIOCLASE CRYSTALS

MOYEZ CREEK VOLCANICLASTICS

CONGLOMERATE WITH SOME GRANITIC CLASTS, GRADED, CROSS-BEDDED GREYWACKE, WELL-BEDDED CRYSTAL TUFF, EPICLASTIC SEDIMENTS; LOCAL LAMINATED CALCAREOUS SILT (MARL), RARE THIN LIMESTONE AND CHERT; LOCAL CARBONATE LANDSLIDE DEBRIS AND LAHAR, IN PART OR TOTALLY EQUIVALENT TO UNIT 6A

CRYSTAL TUFFS IN THIN, WELL-LAYERED UNITS; SOME EPICLASTIC SANDSTONE AND MUDSTONE; RARE PLANT FRAGMENTS IN SOME BEDS; MINOR LAPILLI TUFF

ADDOGATCHO CREEK FORMATION

PALE REDDISH GREY TO DARK RED-BROWN QUARTZOSE BIOTITE HORNBLENDE PHYRIC ASH FLOWS; THE ROCKS CONTAIN MINOR SANDWINE AND RARE AUGITE. WELDING IS WIDESPREAD AND RANGES FROM INCIPENT TO EUTAXTIC; LOCALLY ORANGE TO BROWN VITROPHYRIC CLASTS ARE COMMON. INCLUDES LAPILLI TUFF AND BRECCIA UNITS AS WELL AS MINOR LAYERED GROUND SURGE DEPOSITS

CRYSTAL ASH TUFF LAPILLI TUFF AND RARE AGGLOMERATE WITH INTERSPERSED EPICLASTIC BEDS, TUFFACEOUS SEDIMENTS AND MINOR CONGLOMERATE THAT LOCALLY CONTAINS GRANITIC CLASTS; MINOR HORNBLENDE PLAGIOCLASE PHYRIC FLOWS FORMING SINGLE OR THIN COMPOSITE FLOW UNITS

QUARTZOSE PLAGIOCLASE PORPHYRY—JOINTED, DOMAL INTRUSION (?) OF HOMOGENEOUS-APPEARING GREY TO GREEN, CHLORITIZED AND EPIDOTE-ALTERED ROCK CONTAINING ABUNDANT INCLUSIONS OF TAKLA VOLCANICS AND RARE METAMORPHIC ROCK CLASTS

TRIASSIC

UPPER TRIASSIC

TALKA GROUP

DARK GREEN AUGITE PORPHYRY BASALT FLOWS AND BRECCIAS WITH LESSER FINE-GRAINED ANDESITE TO BASALT FLOWS AND MINOR INTERBEDDED SILTSTONE, TUFFACEOUS SEDIMENTS, AND CHERT. CONTAINS LIMESTONE LENSES THAT MAY BE PART OF THE "ABITKA GROUP"

PALEOZOIC

PERMIAN

ABITKA GROUP?

PREDOMINANTLY LIMESTONE (INCLUDING MARBLE AND MINOR SKARN); WITH SOME ARGILLITE, BLACK SHALE, AND CHERT UNITS COMPOSED OF LIMESTONE, CHERT, ARGILLITE, AND BASALT (P.V. c) MAY BE, IN PART, OR TOTALLY TAKLA GROUP

INTRUSIVE ROCKS

JURASSIC

LOWER JURASSIC (DYKES, SILLS, AND SMALL PLUGS)

BASALT

AUGITE HORNBLENDE PORPHYRY - BASALTIC STOCK, DOMAL INTRUSION (OR TAKLA INLIER)

BIOTITE HORNBLENDE DIORITE/GABBRO

PYROXENE PLAGIOCLASE PORPHYRY

LOWER TO MIDDLE JURASSIC (DYKES AND STOCKS)

QUARTZ MONZONITE, GRANODIORITE—MEGACRYSTIC IN PART; MINOR SYENITE OR QUARTZOSE SYENITE ALONG CONTACTS

GRANODIORITE, QUARTZ DIORITE - MEDIUM GRAINED, PORPHYRYTIC, FOLIATED IN PART

FELDSPAR PORPHYRY; HORNBLENDE FELDSPAR PORPHYRY - DYKES AND PLUGS; RARE QUARTZ FELDSPAR PORPHYRY

SYMBOLS

MINERAL OCCURRENCE (MINERAL INVENTORY FILE NUMBER) x 43

MINERAL PROSPECT (MINERAL INVENTORY FILE NUMBER) x 34

EXPLORATION CAMP ⊕

PLACER WORKINGS ^

PARK BOUNDARY ———

ROAD ———

MAIN OUTCROP AREAS ○

FAULT (OBSERVED, INFERRED) ———

THRUST OR REVERSE FAULT (OBSERVED, INFERRED) ———

BEDDING, LAYERING, FOLIATION (HORIZONTAL, INCLINED, VERTICAL) + 10/

FOLD AXES ———

FOSSIL LOCALITY (PLANT DEBRIS) ⊕

RADIOMETRIC DATE SAMPLE SITE, AGE IN Ma (A)104

VOLCANIC VENT ⊙

HYDROTHERMAL ALTERATION

FERRICRETE, QUATERNARY FERRUGINOUS BRECCIA (F)

SILICA, CLAY MINERALS = ALLUNITE, BARITE (B)

CLAY MINERALS = ALLUNITE, SILICA, HEMATITE (H)

EL CONDOR RESOURCES LTD.

KEMESS PROPERTY

REGIONAL GEOLOGY

LEGEND

FILE CLASSIFIED

NUMBER 20, 1998

FIG 3

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° 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°), roughly paralleling the north-facing cliffs of all three cirques.

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**

The known mineralization, in order of abundance, includes: pyrite, chalcopyrite, magnetite, hematite, molybdenite and

digenite. Pyrite occurs as microveinlets and disseminations within the intrusive. 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.

1990 DIAMOND DRILLING

The 1990 diamond drilling was managed by C.E.C. Engineering Ltd. of Vancouver, on behalf of El Condor Resources Ltd.

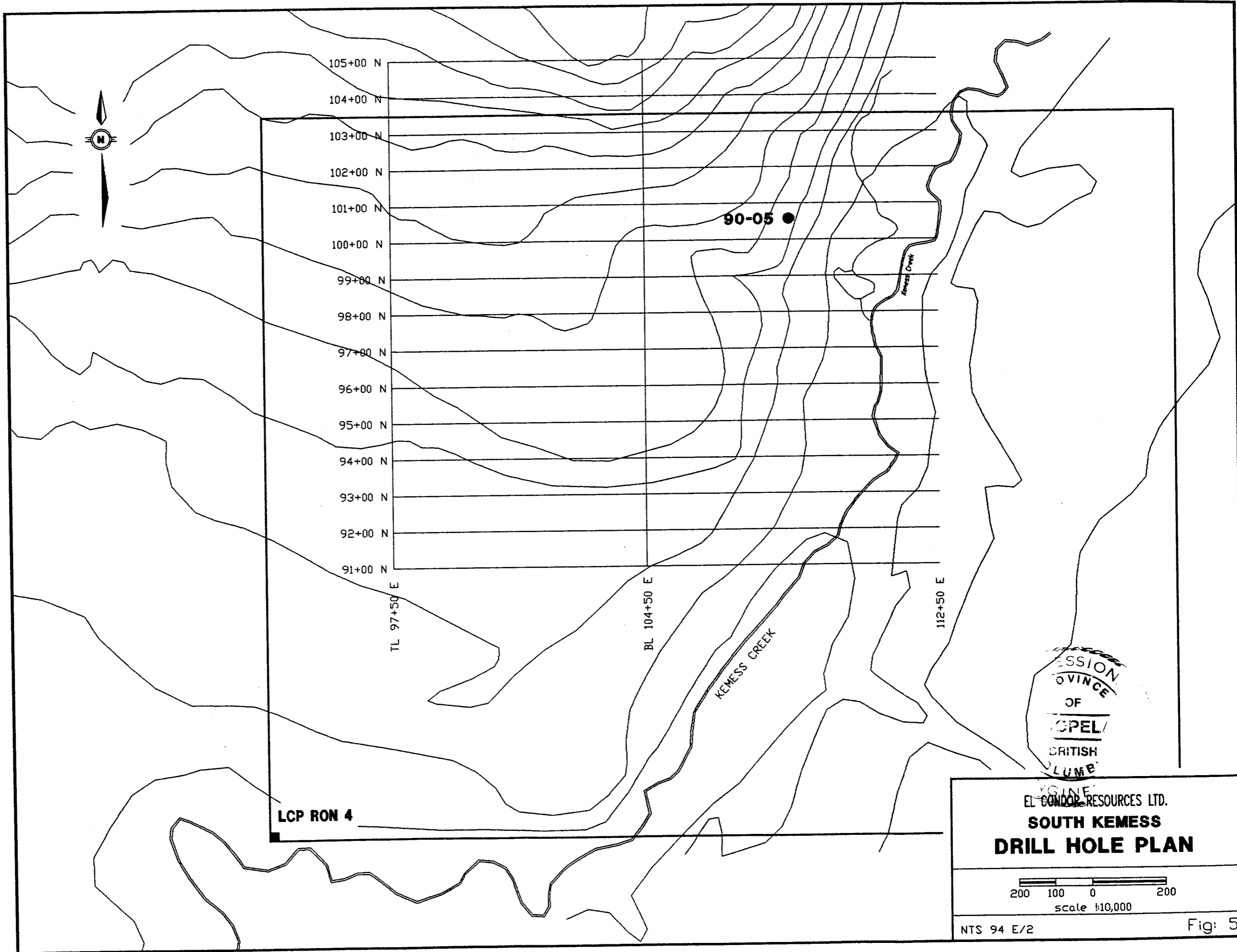
The drilling contract was awarded to J.T. Thomas Diamond Drilling Ltd. of Smithers, B.C. The field program was carried out between July 1 and Sept. 30, 1990.

The pertinent diamond drill hole data follows.

Drill Hole	Coordinates		Azimuth	Declination	Length(m)
	N.	E.			
DDH90-05	10056	10843	290°	-88°	215.5

The NQ size diamond drill core was logged and sampled at 2.00 metre intervals. All of the drill core was split and one-half was shipped to Min-En Laboratories Ltd. in Smithers, B.C. for crushing, grinding and pulp preparation. The remaining split drill core was properly labelled, stacked and stored at the camp site. A total of 103 prepared pulps were later shipped to the assay facilities of Min-En Laboratories Ltd. in North Vancouver, B.C. for gold and copper fire assays.

The geologic log and analytical results accompany this report as Appendices I and II, respectively. The locations of the drill hole collar is shown on Figure 5, and the geological cross-section and analytical results have been plotted on Figures 6 of this report. The analytical procedures utilized by the two assay laboratories accompany this report as Appendix III.



105+00 N
104+00 N
103+00 N
102+00 N
101+00 N
100+00 N
99+00 N
98+00 N
97+00 N
96+00 N
95+00 N
94+00 N
93+00 N
92+00 N
91+00 N

TL 97+50 E

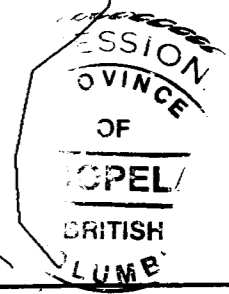
BL 104+50 E

112+50 E

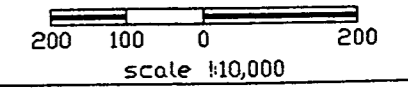
KEMESS CREEK

LCP RON 4

90-05 ●

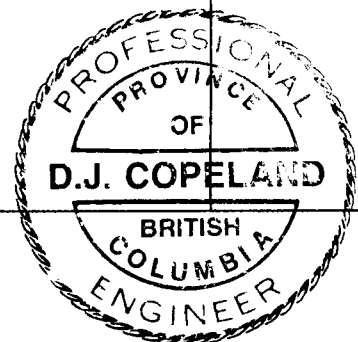
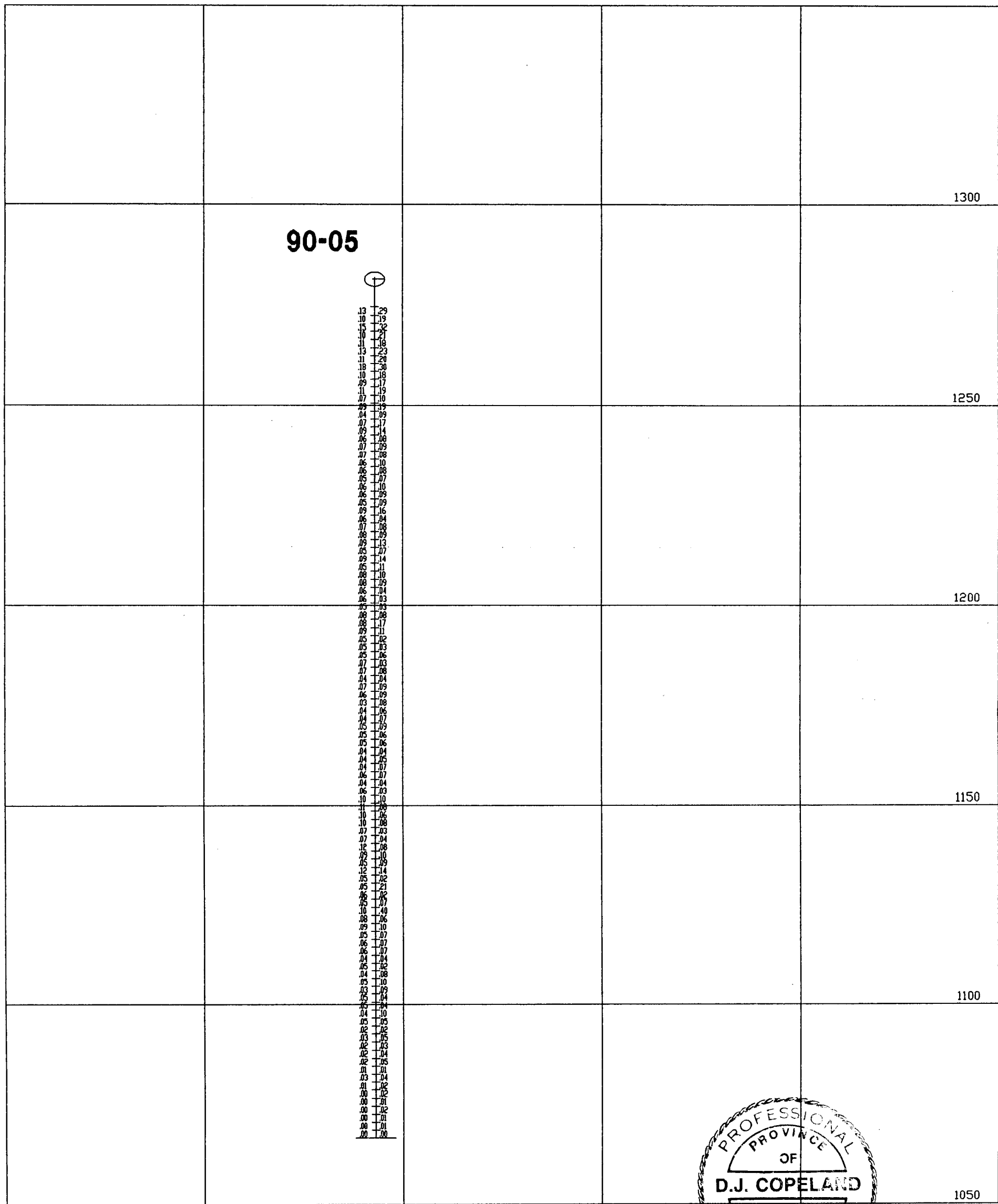


EL CONDOR RESOURCES LTD.
**SOUTH KEMESS
DRILL HOLE PLAN**



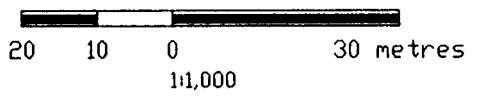
NTS 94 E/2

Fig: 5



LEGEND

% Cu — Au gm/tonne



EL CONDOR RESOURCES LTD.		
SOUTH KEMESS		
CROSS SECTION DDH 90-05		
SCALE : 1:1,000	DRAWN BY : abbas consulting	FILE :
DATE : Jan., 1991	REVISED :	FIGURE : Fig. 6

DISCUSSION OF RESULTS

The diamond drilling program tested a number of coincident geological, geochemical and geophysical anomalies. Despite the drill hole not intersecting any significant gold-copper values, the alteration zones and rock type encountered are typical of a porphyry Cu-Au deposit.

CONCLUSIONS and RECOMMENDATIONS

Further detailed drilling to test the remaining geochemical and geophysical targets should be carried out to identify any further alteration zones and subsequent Cu-Au bearing zones on the property as well as reveal the extent of the mineralization.

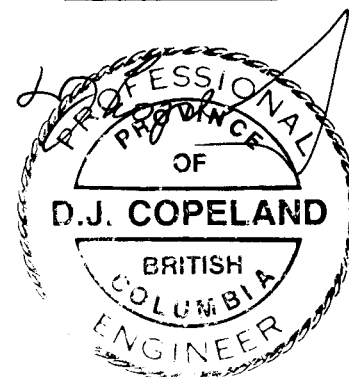
Encouraging drilling results would warrant the expansion of the geophysical and geochemical grids.

STATEMENT OF COSTS

Personnel Expenses:

Project Geologist 3 days @ \$300.00 per day	\$ 900.00
Sampler 3 days @ \$125.00 per day	\$ 375.00
J.T. Thomas Diamond Drilling Ltd. 1 NQ drill hole totalling 215.5 metres. @ \$88.35 per metre	\$ 19,039.00
Drill site preparation, John Deere 550 bulldozer	80.00
Fixed wing aircraft support - Central Mtn. Air	500.00
Helicopter support	720.00
Travel expenses (airline) - Canadian Airlines	452.00
Assay and analytical expenses - Min-En Labs 103 samples * \$17.00 per sample	1751.00
Camp Costs	1500.00

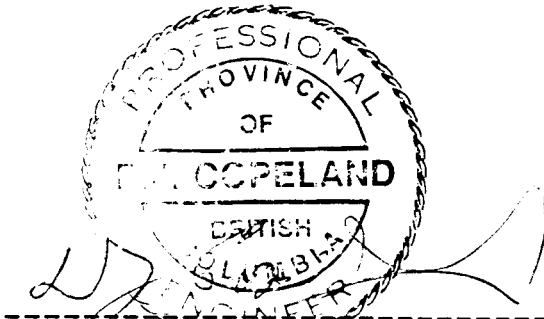
TOTAL COST OF 1990 DIAMOND DRILLING	<u>\$ 25,317.00</u>



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 700 - 1177 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 1990 diamond drilling program on the subject property, attended to the site, and 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.



A circular professional seal for David J. Copeland, a Professional Engineer in the Province of British Columbia. The seal features the text "PROFESSIONAL ENGINEER" around the top and "PROVINCE OF BRITISH COLUMBIA" around the bottom. In the center, the name "D. J. COPELAND" is stamped. A signature is written across the seal, and a horizontal dashed line is drawn below it.

D. J. Copeland, P.Eng.

Dated at Vancouver, British Columbia, this 27th day of December, 1990.

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APPENDIX I

Diamond Drill Geological Log

CEC ENGINEERING LTD.

SOUTH KEMESS EL CONDOR RESOURCES LTD./ ST. PHILIPS RESOURCES INC. 90-05
DIAMOND DRILL LOG

PROPERTY : SOUTH KEMESS NTS : 94E/2
LINE/STATION: 10843 E / 10056 N EASTINGS/NORTHINGS: ELEVATION : 1281.61
LENGTH : 215.50 m INCLINATION : -88.0 degrees AZIMUTH : 290.0 degrees
OVERBURDEN : 6.90 m CASING : 6.9 metres ASSAYING BY : Min-En Labs
LOGGED BY : G. Benvenuto DRILLED BY : J.T. Thomas CORE LOCATION: Property
DATE LOGGED : 1990/08/12 DATE DRILLED : 1990/08/10 to 1990/08/12
Y/M/D Y/M/D

ACID TESTS

Depth	Dip	Azimuth
215.50	-89.0	0.0

SOUTH KEMESS SUMMARY LOG 90-05

From(m)	To(m)	Field Name (Legend)
0.00	6.90	CASING IN OVERBURDEN
6.90	76.80	ARGILLIC ALTERED(PLAGIOCLASE-QUARTZ-BIOTITE+-K-SPAR) GRANODIORITE
76.80	203.50	PYRITIC BASALTIC ANDESITE FLOW
203.50	203.60	BLACK META-ARGILLACEOUS CHERT(PYRITIC)
203.60	204.00	AMYGDALOIDAL BASALTIC FLOW
204.00	208.60	THINLY BEDDED GREEN CHERT with interbeds of GRADED ASH AND CRYSTALS TUFF
208.60	208.80	AMYGDALOIDAL BASALTIC FLOW
208.80	209.70	THINLY BEDDED ASH TUFF, CRYSTALS TUFF, CHERTY TUFF AND CHERT
209.70	209.90	GREY-GREEN CHERT
209.90	210.40	BASALTIC FLOW
210.40	212.10	THINLY BEDDED GREEN TO GREY CHERT, ASH TUFF AND CRYSTALS TUFF
212.10	215.50	THINLY BEDDED ASH TUFF, BASALTIC CRYSTALS TUFF, CHERT AND CHERTY TUFF

215.50 END OF HOLE.

From(m)	To(m)	-----Description-----	Sample No.	From (m)	To (m)	Width (m)	Au (g/tonne)	Au (oz/ton)	Cu (%)
0.00	6.90	CASING IN OVERBURDEN							
6.90	76.80	ARGILLIC ALTERED(PLAGIOCLASE-QUARTZ-BIOTITE+K-SPAR) GRANODIORITE Granodiorite Texture: generally poor because of argillic alteration and shearing.	26383	6.90	9.00	2.10	0.29	0.008	0.13
		Composition	26384	9.00	11.00	2.00	0.19	0.006	0.10
		Plagioclase: 5%. Phenocrysts completely sericite altered, dirty white to medium grey.	26385	11.00	13.00	2.00	0.32	0.009	0.15
		Quartz: 5%. Quartz units appear dirty and very fine grained, sugary due to argillic alteration. Surficially resembles alteration selvages of pyritic fractures.	26386	13.00	15.00	2.00	0.21	0.006	0.10
		Groundmass: Fine to very fine grained, completely sericite altered. Plagioclase and quartz(10%) as crystals. Staining shows 1 to 2% potassic mineral very very fine grained in groundmass(may be alteration product?).	26387	15.00	17.00	2.00	0.18	0.005	0.11
		Structure	26388	17.00	19.00	2.00	0.23	0.007	0.13
		Shearing: Abundant shear/gouge/breccia zones from 0.5 to 3 cm in width oriented at 60 to 80 degrees to core axis and lesser 30 to 40 degrees to core axis. Moderate to strong brecciated, weak to moderate shearing and moderate to strong clay alteration.	26389	19.00	21.00	2.00	0.20	0.006	0.11
		Alteration	26390	21.00	23.00	2.00	0.30	0.009	0.18
		Argillic: Results in rougher core surface texture and very fine white speckled appearance. Alteration appears overprinted on hematitic-sericite-quartz alteration and stronger sericite alteration(minor). Very weak to weak from 6.90-57.50 metres, very weak from 57.50-76.80 metres.	26391	23.00	25.00	2.00	0.18	0.005	0.10
		Hematitic: Trace. Mostly as selvages within white quartz units.	26392	25.00	27.00	2.00	0.17	0.005	0.09
		Sericite: Strong sericite and mod hematitic alteration from 10.50-10.70 metres. Weak to localized alteration from 12.60-12.90 metres	26393	27.00	29.00	2.00	0.19	0.006	0.11
		Mineralization	26394	29.00	31.00	2.00	0.10	0.003	0.07
		Pyrite: Trace to 2%. In 5 mm wide sericite-potassic alteration selvages that look bleached and are super imposed by clay alteration. 2 to 20 mm thick units from 6.90-26.60 m. Also along hairline fractures that decrease in frequency downhole.	26395	31.00	33.00	2.00	0.19	0.006	0.09
		Chalcopyrite: Trace to 5%. Very fine grained in nature. From 47.20 to 49.10 metres is 3 to 5% chalcopyrite as rusty spots 2 to 8mm in diameter, appears to result from oxidation of very fine grained disseminated sulphides.	26396	33.00	35.00	2.00	0.09	0.003	0.04
			26397	35.00	37.00	2.00	0.17	0.005	0.07
			26398	37.00	39.00	2.00	0.14	0.004	0.09
			26399	39.00	41.00	2.00	0.08	0.002	0.06
			26400	41.00	43.00	2.00	0.09	0.003	0.07
			26401	43.00	45.00	2.00	0.08	0.002	0.07
			26402	45.00	47.00	2.00	0.10	0.003	0.06
			26403	47.00	49.00	2.00	0.08	0.002	0.06
			26404	49.00	51.00	2.00	0.07	0.002	0.05
			26405	51.00	53.00	2.00	0.10	0.003	0.06
			26406	53.00	55.00	2.00	0.09	0.003	0.06
			26407	55.00	57.00	2.00	0.09	0.003	0.05
			26408	57.00	59.00	2.00	0.16	0.005	0.09
			26409	59.00	61.00	2.00	0.04	0.001	0.06
			26410	61.00	63.00	2.00	0.08	0.002	0.07
			26411	63.00	65.00	2.00	0.09	0.003	0.08
			26412	65.00	67.00	2.00	0.13	0.004	0.09
			26413	67.00	69.00	2.00	0.07	0.002	0.05
			26414	69.00	71.00	2.00	0.14	0.004	0.09
			26415	71.00	73.00	2.00	0.11	0.003	0.05

From(m)	To(m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (g/tonne)	Au (oz/ton)	Cu (%)
		Molybdenite: Trace. At 43.60 metres in a 1 x 1 cm patch in the center of a quartz unit. At 57.70 metres as very fine grained disseminations.	26416	73.00	75.00	2.00	0.10	0.003	0.08
			26417	75.00	77.00	2.00	0.09	0.003	0.08
		Veins and Sub-Intervals							
		<8.50> : Quartz Unit . 1.8 cm wide at 55 degrees to core axis.							
		<10.60> : Quartz Unit . 1.8 cm wide at 55 degrees to core axis.							
		<12.50> : Quartz Unit . 1.5 cm wide at 65 degrees to core axis.							
		<20.50>-<20.60>: Quartz Unit ing. 1.0 cm wide at 30 degrees to core axis.							
		<26.10>-<29.30>: Up to 80% of plagioclase phenocrysts and crystals are white clay altered.							
		<37.30> : Quartz Unit . 1.0 cm wide at 20 degrees to core axis.							
		<44.10> : Quartz Unit . 1.0 cm wide at 10 degrees to core axis.							
		<54.20> : Quartz Unit . 1.0 cm wide at 20 degrees to core axis.							
		<57.00> : Quartz Unit . 6 mm wide at 0 degrees to core axis.							
		<63.00> : Quartz Unit . 3.0 cm wide at 55 degrees to core axis.							
		<75.50> : Quartz Unit . 1 cm wide at 80 degrees to core axis.							
76.80	203.50	PYRITIC BASALTIC ANDESITE FLOW							
		Colour: medium green-grey to dark tan-brown.	26418	77.00	79.00	2.00	0.04	0.001	0.06
		Andesite Texture: Distinct salt and pepper appearance due to very strong sausserite alteration of feldspar and chloritic alteration of mafics.	26419	79.00	81.00	2.00	0.03	0.001	0.06
			26420	81.00	83.00	2.00	0.03	0.001	0.05
			26421	83.00	85.00	2.00	0.08	0.002	0.08
		Composition	26422	85.00	87.00	2.00	0.17	0.005	0.08
		Phenocrysts: 2 to 3%. Augite.	26423	87.00	89.00	2.00	0.11	0.003	0.09
		Groundmass: Very fine grained, dark brown, contains biotite+pyrite altered mafic phenocrysts.	26424	89.00	91.00	2.00	0.02	0.001	0.05
			26425	91.00	93.00	2.00	0.03	0.001	0.05
		Calcite: 1 to 2%. Units from 0.5 to 1 cm wide throughout at 10 to 20 degrees to core axis.	26426	93.00	95.00	2.00	0.06	0.002	0.05
			26427	95.00	97.00	2.00	0.03	0.001	0.07
		Iron carbonate: 2 to 3%. Unit at 90.50 to 106.40 metres. Opaque white to pinkish white colour, irregular discontinuous patches, weakly brecciated with localized shearing.	26428	97.00	99.00	2.00	0.08	0.002	0.07
			26429	99.00	101.00	2.00	0.04	0.001	0.04
		Gypsum: 1 to 2%. Units up to 0.8 cm wide, cut iron carbonate units.	26430	101.00	103.00	2.00	0.09	0.003	0.07
		Structure	26431	103.00	105.00	2.00	0.09	0.003	0.06
		Shearing: Gouge/shear/brecciated zones throughout. Cataclastic with 10 to 30% gouge between brecciated fragments, up to 0.5 metres wide, oriented at 60 to 70 degrees to core axis.	26432	105.00	107.00	2.00	0.08	0.002	0.03
			26433	107.00	109.00	2.00	0.06	0.002	0.04
			26434	109.00	111.00	2.00	0.07	0.002	0.04
			26435	111.00	113.00	2.00	0.09	0.003	0.05

From(m)	To(m)	-----Description-----	Sample No.	From (m)	To (m)	Width (m)	Au (g/tonne)	Au (oz/ton)	Cu (%)
		Alteration							
		Potassic: Altered fracture filled laminae with 1mm wide potassic alteration selvages and very very fine grained rimming. Alteration is patchy not pervasive.	26437	115.00	117.00	2.00	0.06	0.002	0.05
			26438	117.00	119.00	2.00	0.04	0.001	0.04
			26439	119.00	121.00	2.00	0.05	0.001	0.04
		Sericite: Strong. Generally strong sericite-sausserite-quartz-chlorite alteration with undistinct textures. Intervals of weak to moderate sericite-biotite alteration are dark tan to dark brown.	26440	121.00	123.00	2.00	0.07	0.002	0.04
			26441	123.00	125.00	2.00	0.07	0.002	0.06
			26442	125.00	127.00	2.00	0.04	0.001	0.04
		Mineralization	26443	127.00	129.00	2.00	0.03	0.001	0.06
		Pyrite: 2 to 3%. From 76.80 to 79.60 metres. Disseminated and fracture filling.	26444	129.00	131.00	2.00	0.10	0.003	0.10
			26445	131.00	133.00	2.00	0.08	0.002	0.11
		Pyrite: 1%. From 79.60 to 203.50 metres. Very fine grained disseminated and fracture filling pyrite. Coarser grained and more conspicuous pyrite from 79.60 to 89.4 metres and 106.00 to 203.50 metres.	26446	133.00	135.00	2.00	0.06	0.002	0.10
			26447	135.00	137.00	2.00	0.08	0.002	0.10
			26448	137.00	139.00	2.00	0.03	0.001	0.07
		Chalcopyrite: Trace. From 140.00 to 143.00 metres, Very fine grained disseminations.	26449	139.00	141.00	2.00	0.04	0.001	0.07
			26450	141.00	143.00	2.00	0.08	0.002	0.12
		Veins and Sub-Intervals	26616	143.00	145.00	2.00	0.10	0.003	0.09
		<78.00>-<104.00>: Quartz Unit ing. Minor, oriented at 5 to 55 degrees to core axis, generally pyritic.	26617	145.00	147.00	2.00	0.09	0.003	0.05
			26618	147.00	149.00	2.00	0.14	0.004	0.12
		<92.50> : Magnetic unit oriented at 20 degrees to core axis, 2 cm wide, 5% fine grained disseminated pyrite.	26619	149.00	151.00	2.00	0.02	0.001	0.05
			26620	151.00	153.00	2.00	0.21	0.006	0.05
			26621	153.00	155.00	2.00	0.02	0.001	0.06
			26622	155.00	157.00	2.00	0.07	0.002	0.05
			26623	157.00	159.00	2.00	0.40	0.012	0.10
			26624	159.00	161.00	2.00	0.06	0.002	0.08
			26625	161.00	163.00	2.00	0.10	0.003	0.09
			26626	163.00	165.00	2.00	0.07	0.002	0.05
			26627	165.00	167.00	2.00	0.07	0.002	0.06
			26628	167.00	169.00	2.00	0.07	0.002	0.06
			26629	169.00	171.00	2.00	0.04	0.001	0.04
			26630	171.00	173.00	2.00	0.02	0.001	0.05
			26631	173.00	175.00	2.00	0.08	0.002	0.04
			26632	175.00	177.00	2.00	0.10	0.003	0.05
			26633	177.00	179.00	2.00	0.09	0.003	0.03
			26634	179.00	181.00	2.00	0.04	0.001	0.05
			26635	181.00	183.00	2.00	0.04	0.001	0.05
			26636	183.00	185.00	2.00	0.10	0.003	0.04
			26637	185.00	187.00	2.00	0.05	0.001	0.05
			26638	187.00	189.00	2.00	0.02	0.001	0.02

From(m)	To(m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (g/tonne)	Au (oz/ton)	Cu (%)
			26639	189.00	191.00	2.00	0.05	0.001	0.03
			26640	191.00	193.00	2.00	0.03	0.001	0.02
			26641	193.00	195.00	2.00	0.04	0.001	0.02
			26642	195.00	197.00	2.00	0.05	0.001	0.02
			26643	197.00	199.00	2.00	0.01	0.001	0.01
			26644	199.00	201.00	2.00	0.04	0.001	0.03
			26645	201.00	203.00	2.00	0.02	0.001	0.01
			26646	203.00	205.00	2.00	0.02	0.001	0.00
203.50	203.60	BLACK META-ARGILLACEOUS CHERT(PYRITIC) Composition Quartz: 60%. Structure Shearing: 50 to 60 deg. cax. Slickensided shears with pitch foliation slickensides at 90 degrees to core axis. Lower contact: 50 deg. cax. Mineralization Pyrite: 1%. Very very fine grained patchy disseminated pyrite from 0.5 to 1cm in width.							
203.60	204.00	AMYGDALOIDAL BASALTIC FLOW Colour: medium green-grey to tan . Basalt Texture: Very fine grained, crystalline. Composition Amygdales: 6%. Creamy orange to white quartz filled amygdaloidal, 2x5 mm size. Structure Lower contact: 20 deg. cax. Sharp and sheared. Alteration Carbonate: Weak to Moderate.							
204.00	208.60	THINLY BEDDED GREEN CHERT with interbeds of GRADED ASH AND CRYSTALS TUFF Composition Chert: 60%. Grey chert beds 3 to 8 cm thick. Overall increase of cherty ash and ash tuff and crystals tuff downhole. Graded bedding shows top of beds uphole. Bedding is shear offset. Tuff: Ash tuff varies from medium to dark tan green grey to opaque drab light yellow grey in colour, while crystals tuff is speckled medium to light	26647	205.00	207.00	2.00	0.01	0.001	0.01
			26648	207.00	209.00	2.00	0.02	0.001	0.01

From (m)	To (m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (g/tonne)	Au (oz/ton)	Cu (%)
		green grey and black with sausserite alteration and generally graded from fine to very fine grained. Structure Bedding: 25 to 60 deg. cax. Very weak shear generally parallel to bedding. Alteration Chloritic: Fracture filling.							
208.60	208.80	AMYGDALOIDAL BASALTIC FLOW Composition Basalt: Dark green-grey, weakly magnetic. Amygdales: 2%. Chlorite filled, may be very fine crystals. Veins Calcite Veining. Some hairline calcite filled fractures.							
208.80	209.70	THINLY BEDDED ASH TUFF, CRYSTALS TUFF, CHERTY TUFF AND CHERT Colour: medium grey-green to light grey-green. Composition Calcite: Lenses and patches. Structure Bedding: Basal bedding at 65 degrees to core axis. Schistosity: 70 degrees to core axis. Sub-Intervals <209.20>-<209.50>: Ground core.	26649	209.00	211.00	2.00	0.01	0.001	0.01
209.70	209.90	GREY-GREEN CHERT Colour: light grey-green. Fracturing: Severe (41-50)/m. Composition Calcite: Trace. Patches to 1x10 mm, one with siderite.							
209.90	210.40	BASALTIC FLOW Colour: black Grain Size: Very Fine. Magnetic Response: Moderate. Composition Calcite: 2%. Veining and patches.							

From(m)	To(m)	Description	Sample No.	From (m)	To (m)	Width (m)	Au (g/tonne)	Au (oz/ton)	Cu (%)
		Structure Lower contact: 75 deg. cax. Alteration Sericite: Strong. +chlorite alteration.							
210.40	212.10	THINLY BEDDED GREEN TO GREY CHERT, ASH TUFF AND CRYSTALS TUFF Composition Tuff: Crystals and ash tuff interbeds, generally moderate to localized shearing parallel to bedding. Chlorite: 1%. Fractures, generally hairline, locally sheared. Structure Bedding: 60 deg. cax. Mineralization Pyrite: From 211.75 to 212.10 metres. Hairline fractures, discontinuous, commonly at 15 to 20 degrees to core axis. Sub-Intervals <211.70> : Strongly sheared very crystalline tuff 4 cm thick at 55 degrees to core axis(parallel to bedding).	26650	211.00	213.00	2.00	0.01	0.001	0.01
212.10	215.50	THINLY BEDDED ASH TUFF, BASALTIC CRYSTALS TUFF, CHERT AND CHERTY TUFF Composition Tuff: As 210.40 to 212.10 metres but with higher % ash and crystals tuffs. Crystals tuff are medium to fine grained to very fine grained, medium dark green grey, with black mafic specks. Chlorite: Trace. Fractures, few chloritic shears sub-parallel to bedding. Quartz: 2 to 3%. Grains. Matrix: 1%. Appears to be glass coated crystal fragments. Structure Bedding: 75 deg. cax. Top is uphole. Cherty beds strongly fractured, crystals tuff beds locally sheared at 60 to 75 degrees to core axis.							
215.50		END OF HOLE.							

APPENDIX II

Min-En Laboratories Ltd.

Certificate of Assay



MIN-EN LABORATORIES
 (DIVISION OF ASSAYERS CORP.)

SPECIALISTS IN MINERAL ENVIRONMENTS
 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
 FAX (604) 980-8621

THUNDER BAY LAB.:
 TELEPHONE (807) 622-8958
 FAX (807) 623-5931

SMITHERS LAB.:
 TELEPHONE/FAX (604) 847-3004

Assay Certificate 90-5 OV-1296-RA1

Company: **C.E.C. ENGINEERING**
 Project: **KEMESS-SOUTH**
 Attn: **M. REBAGLIATI**

Date: **SEP-02-90**
 Copy 1. C.E.C. ENGRG., VANCOUVER, B.C.

We hereby certify the following Assay of 24 CORE samples submitted AUG-28-90 by GARY BENEVENUTO.

Sample Number	*AU g/tonne	*AU oz/ton	CU %				
26383 B	.29	.008	.128	KS 90-5			
26384 B	.19	.006	.097				
26385 B	.32	.009	.153				
26386 B	.21	.006	.100				
26387 B	.18	.005	.109				

26388 B	.23	.007	.126				
26389 B	.20	.006	.110				
26390 B	.30	.009	.184				
26391 B	.18	.005	.099				
26392 B	.17	.005	.091				

26393 B	.19	.006	.112				
26394 B	.10	.003	.072				
26395 B	.19	.006	.094				
26396 B	.09	.003	.040				
26397 B	.17	.005	.068				

26398 B	.14	.004	.088				
26399 B	.08	.002	.065				
26400 B	.09	.003	.069				
26401 B	.08	.002	.068				
26402 B	.10	.003	.060				

26403 B	.08	.002	.058				
26404 B	.07	.002	.045				
26405 B	.10	.003	.063				
26406 B	.09	.003	.061				

*AU - 1 ASSAY TON.

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SMITHERS LAB.:
 TELEPHONE/FAX (604) 847-3004

Assay Certificate

OV-1296-RA2

Company: **C.E.C. ENGINEERING**
 Project: **KEMESS-SOUTH**
 Attn: **M. REBAGLIATI**

Date: **SEP-02-90**
 Copy 1. C.E.C. ENGRG., VANCOUVER, B.C.

We hereby certify the following Assay of 24 CORE samples submitted AUG-28-90 by GARY BENEVENUTO.

Sample Number	*AU g/tonne	*AU oz/ton	CU %
26407 B	.09	.003	.052
26408 B	.16	.005	.089
26409 B	.04	.001	.058
26410 B	.08	.002	.071
26411 B	.09	.003	.078

26412 B	.13	.004	.088
26413 B	.07	.002	.050
26414 B	.14	.004	.092
26415 B	.11	.003	.051
26416 B	.10	.003	.077


26417 B	.09	.003	.076
26418 B	.04	.001	.061
26419 B	.03	.001	.058
26420 B	.03	.001	.053
26421 B	.08	.002	.084

26422 B	.17	.005	.078
26423 B	.11	.003	.093
26424 B	.02	.001	.049
26425 B	.03	.001	.048
26426 B	.06	.002	.053

26427 B	.03	.001	.069
26428 B	.08	.002	.070
26429 B	.04	.001	.043
26430 B	.09	.003	.068

RS 90-5 CONT'D

*AU - 1 ASSAY TON.

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705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5831

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OV-1296-RA3

Company: **C.E.C. ENGINEERING**
Project: **KEMESS-SOUTH**
Attn: **M.REBAGLIATI**

Date: **SEP-02-90**
Copy to: **C.E.C. ENGRG., VANCOUVER, B.C.**

We hereby certify the following Assay of 24 CORE samples submitted AUG-28-90 by GARY BENEVENUTO.

Sample Number	*AU g/tonne	*AU oz/ton	CU %
26431 B	.09	.003	.057
26432 B	.08	.002	.031
26433 B	.06	.002	.040
26434 B	.07	.002	.039
26435 B	.09	.003	.048

26436 B	.06	.002	.047
26437 B	.06	.002	.052
26438 B	.04	.001	.040
26439 B	.05	.001	.035
26440 B	.07	.002	.044

26441 B	.07	.002	.061
26442 B	.04	.001	.038
26443 B	.03	.001	.060
26444 B	.10	.003	.103
26445 B	.08	.002	.109

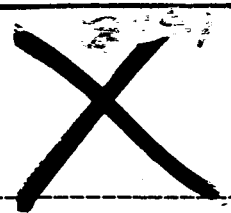
26446 B	.06	.002	.098
26447 B	.08	.002	.103
26448 B	.03	.001	.070
26449 B	.04	.001	.069
26450 B	.08	.002	.124

KS 90-5 CONT'D

26450
- 26501

- 143 m

9.1 m -



*AU - 1 ASSAY TON.

Certified by *Benjamins*

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VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OV-1296-RA4

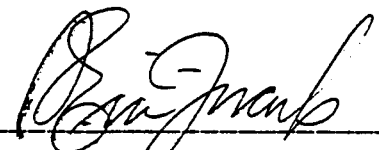
Company: C.E.C. ENGINEERING
Project: KEMESS-SOUTH
Attn: M. REBAGLIATI

Date: SEP-02-90
Copy 1. C.E.C. ENGRG., VANCOUVER, B.C.

We hereby certify the following Assay of 24 CORE samples
submitted AUG-28-90 by GARY BENEVENUTO.

Sample Number	*AU g/tonne	*AU oz/ton	CU %	
				KS 90-5 CONT'D
	- 61.9 m			
26616 B	143 m - .10	.003	.091	KS 90-5 CONT'D FROM 26450
26617 B	.09	.003	.053	
26618 B	.14	.004	.120	
26619 B	.02	.001	.050	
26620 B	.21	.006	.047	
26621 B	.02	.001	.058	
26622 B	.07	.002	.050	
26623 B	.40	.012	.100	
26624 B	.06	.002	.082	
26625 B	.10	.003	.089	
26626 B	.07	.002	.046	
26627 B	.07	.002	.063	
26628 B	.07	.002	.065	
26629 B	.04	.001	.043	
26630 B	.02	.001	.050	
26631 B	.08	.002	.041	
26632 B	.10	.003	.053	
26633 B	.09	.003	.032	
26634 B	.04	.001	.050	
26635 B	.04	.001	.052	

*AU - 1 ASSAY TON.

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VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-8621

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OV-1296-RA5

Company: C.E.C. ENGINEERING
Project: KEMESS-SOUTH
Attn: M.REBAGLIATI

Date: SEP-02-90
Copy 1. C.E.C. ENGRG., VANCOUVER, B.C.

We hereby certify the following Assay of 16 CORE samples submitted AUG-28-90 by GARY BENEVENUTO.

Sample Number	*AU g/tonne	*AU oz/ton	CU %	
26636 B	.10	.003	.043	KS 90-5 CONT'D
26637 B	.05	.001	.047	
26638 B	.02	.001	.019	
26639 B	.05	.001	.025	
26640 B	.03	.001	.020	

26641 B	.04	.001	.024	
26642 B	.05	.001	.024	
26643 B	.01	.001	.015	
26644 B	.04	.001	.026	
26645 B	.02	.001	.010	

26646 B	.02	.001	.002	
26647 B	.01	.001	.004	
26648 B	.02	.001	.004	
26649 B	.01	.001	.002	
26650 B	- 213 m	.01	.001	.002

EOH 26651 B	213 - 215.5 m	NO	SAMPLE	
26652 B		.01	.001	.032

CHIP SAMPLE 7 m (E-W) ALONG ROAD OUT + DITCH JUST NORTH OF CAMP

*AU - 1 ASSAY TON.

Certified by *[Signature]*
MIN-EN LABORATORIES

APPENDIX III
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.



Chemex Labs Ltd.

Analytical Chemists

Geochemists

Registered Assayers

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

Phone: (604) 984-0221
Telex: 04-352597
Fax: (604) 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.



Chemex Labs Ltd.

*Analytical Chemists**Geochemists**Registered Assayers*

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

Phone: (604) 984-0221

Telex: 04-352597

Fax: (604) 984-0218

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.



Chemex Labs Ltd.

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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.