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GEOLOGICAL REPORT AND LOGS OF CUTTINGS FROM THE REVERSE CIRCULATION DRILLING ON THE EML CLAIMS

> JUNE 4TH TO 12TH, 1991 BARKERVILLE GOLD BELT CARIBOO MINING DIVISON BRITISH COLUMBIA

LONGITUDE 121° 33' WEST LATITUDE 53° 08' NORTH N.T.S. 93H/4E

FOR

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> GEOLOGICAL BRANCH November 1995 ESSMENT REPORT

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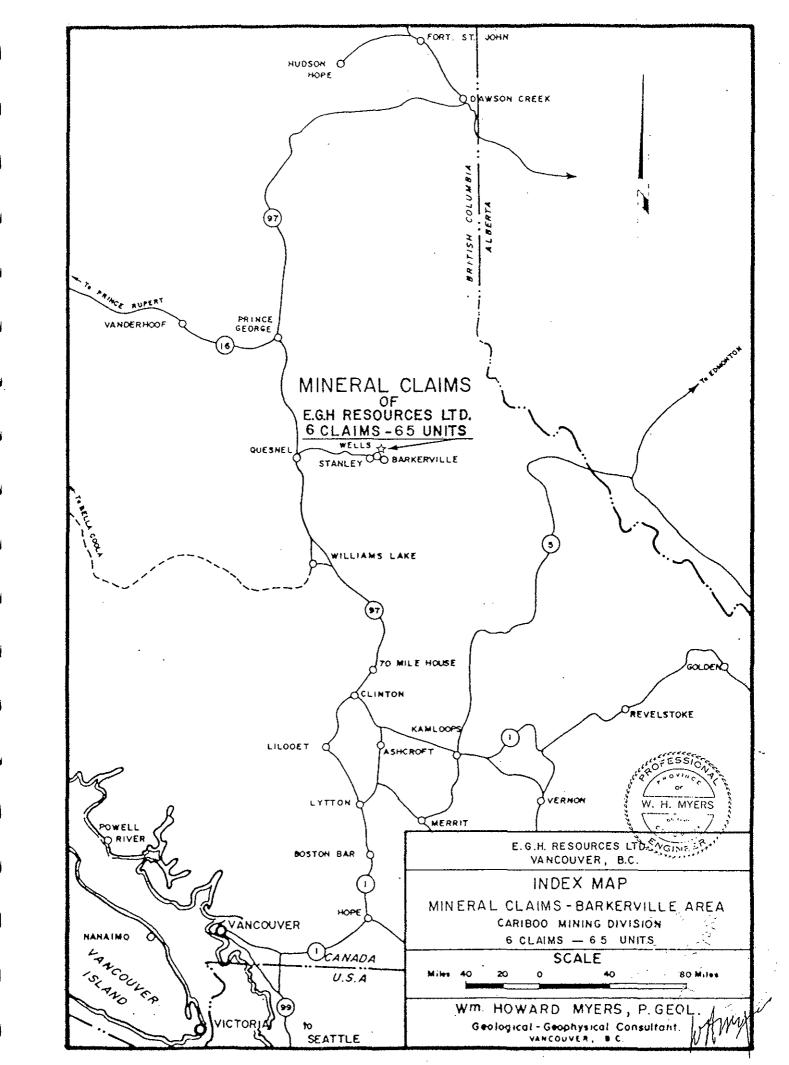
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#### ABSTRACT

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The original EML #1 through #6 claim block of 65 units was reduced on February 15, 1991 to 16 units located within the original EML #1, EML #2 and EML #6 claims as shown on the enclosed geological-geophysical map in the pocket of the report.

Eleven reverse circulation holes were drilled during the period June 4th through June 12th, 1991. A total of 1,720 feet or 524 meters were drilled with the deepest hole being RCH #1-P-91 at 280 feet or 85 meters. Most all of the holes failed to reach targeted depth due to water with above normal head or pressure. Most of the holes were located on or near strong conductive zones on the VLF-Electromag survey. In most cases, the condutive zones were due to the alteration of the argillite to graphite or graphitic schist in close proximity to faulting and/or drag folding and faulting. Most all of the altered argillite contained abnormal amounts of pyrite, both in the cube form and massive along with some carbonate or calcite in fractured quartz veins and veinlets. The reverse circulation drill was used because earlier drilling with NQ diamond drill failed to recover core in the fractured zones where quartz and pyrite contained the gold values. Samples RCS #7 and RCS #22, which contained the higher gold values on the original assay, gave exactly the same values on the +12.5mesh and -12.5 mesh screen separation. This could possibly indicate that the drill did not recover any "nugget" gold values. It is more possible that with the abundant pyrite and shallow depths along or associated with faulting and possible water circulation that the gold has been leached from the broken ground with the pyrite oxidation furnishing the necessary extra sulphur and iron for the leaching.

It is interesting to note that in the general area of holes RCH #3 and RCH #1 where the higher gold values were recorded, the placer gold values recovered earlier were 3 to 5 times higher than the remainder of the area worked for placer gold. Verbal communications with superintendent of placer operations.

Additional exploration work, in the form of deeper detail drilling is warranted along with the studies of possible leaching of the gold.

## REVERSE CIRCULATION DRILLING ON EML CLAIMS 1991 CARIBOO MINING DIVISION, BRITISH COLUMBIA

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#### INTRODUCTION

Over the past ten years extensive exploration work in the form of electromag surveys, geological mapping, trenching and ICP analysis, together with limited diamond and percussion drilling has been carried out in the area of the original EML #1 through #6 claim block consisting of 65 units. The details and results of most of the work was recorded as assessment work for the years 1984, 1985, 1986, 1987, 1988 and 1990 by the writer (see Bibliograpy). The reverse circulation drill was chosen by the writer in an effort to get a more representative sample of material drilled. The core recovery in earlier diamond drilling was poor in the broken and mineralized zones. In some areas cherts in the broken zone made diamond drilling impossible.

None of the eleven holes were able to reach targeted depth due to broken ground and abnormal water conditions. Many of the samples were contaminated with foreign material. The drilling was carried out using a track mounted drill manufactured by Mobil Oil and a reverse circulation type using double wall pipe and a down hole hammer with a button bit. Samples were collected in a cyclone and split with a Jones splitter. All samples were cut, washed and examined in the field by the writer.

On February 15, 1991, the original EML #1 through #6 (65 units) claim block was reduced to 16 units by reducing the units in EML #1 to 4 units, EML #2 to 6 and EML #6 to 6 units. Claims EML #3, 4 and 5, located in the western, northwestern and northeastern portion of the original claim block were allowed to lapse. The new 16 unit claim block is shown on the claim map and the geological-geophysical map in pocket of report.

The monies expended for the drilling and sampling will be filed by the writer as assessment work on the reduced EML claim block (16 units).

#### HISTORY

The Wells-Barkerville area of central British Columbia is well known for its production of both placer and lode gold. The majority of the placer gold was produced during the gold rush which started around 1861 and tapered off substantially near 1898 when the gold rush started in the Yukon. Placer gold was discovered around 1900 in the Eight Mile Lake area in the northern portion of the claim block. Within the claim block there are four separate areas which have produced substantial placer gold. These areas as well as smaller placer operations are outlined on the enclosed geological claim map. Three separate placer gold operations are still operating within the area of the claim block.

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All of the lode gold production in this portion of the Cariboo has come from the three underground mines near the village of Wells, B.C. some four kilometres south-southwest of the EML #1 - #6 claim block. Lode gold production started in 1933 from the Cariboo Gold Quartz Mine located at the south edge of the village of Wells, B.C. The Cariboo Gold Quartz Mine took over the Island Mountain Mines on the other side of the Jack of Clubs Lake, and during the period January 10, 1933 through April 15, 1967, when the mine was closed down, some 2,929,246 tons of ore grading an average of 0.4 oz. of gold per ton, produced a total of 1,253,683 ounces of gold. The most recent lode mine, identified as the Mosquito Creek Mine, adjoins the old Island Mountain Mine on the northwest and produced gold up until recently.

There is no record of any lode gold production from the EML #1 - #6 mineral claims. There is no record of any previous exploration work for lode gold on the claim block. The only evidence found of work in the field was a short incline on a quartz vein outcrop on Mugford Gulch near the southern boundry of the claim block. Samples of the quartz with pyrite on the dump contained a trace of gold.

Lode gold exploration work in the area of the claim block was started by the writer in 1981 on the original two post claims in the Downey Pass and Eight Mile Lake areas. The original claims worked on were the EHP #1 - #8 inclusive mineral claims in the name of Elmer A. Spate of Calgary, Canada. The original exploration work consisted of detail geological mapping of bedrock exposed by placer operations in the Downey Pass area. Fresh bedrock surfaces in the area of the strong northerly trending fault were exposed with mechanical equipment. Reconnaissance type electromag (input system) profiles were also run across the fault zone to determine the effectiveness of this geophysical tool. Three separate areas have now been outlined for further testing with the drill. During the summer months from 1981 to 1990 inclusive the writer has carried out or supervised exploration work on the EML #1 - #6 claim block as outlined in the introduction. Most of this work is reported in assessment reports tabulated in the Bibliography.

#### GEOLOGY

The area of the EML claims, located in the Wells-Barkerville area, is not unlike other areas of the Cariboo, where bedrock is covered with a mantle of glacial debris. Bedrock outcrops only along sharp breaks in slope road cuts and in old placer gold workings.

#### STRATIGRAPHY

The Cariboo Group of rocks which underlies the area of the EML #1 - #6 mineral claims, is composed of clastic rocks with lesser amounts of carbonate rocks. The rocks have been subjected to low-grade regional metamorphism and fairly intensive deformation. The deformation has impressed a marked secondary foliation on almost all of the clastic rocks and some of the carbonate rocks. Despite the effects of deformation and regional metamorphism, the rocks still commonly show original bedding and other sedimentary features. Many of the rocks are difficult to name accurately because of their original sedimentary variation and subsequent metamorphic character. Many of the clastic rocks of the Cariboo groups are composed of poorly sorted sediments and commonly have a small percentage of grains much larger than the average. It is very difficult to assign a name to this type of rock even if not metamorphosed. Most of the clastic rocks, and even some of the limestones, are schistose, however, in any one unit the degree of schistosity may vary depending on structural position. For example, an argillaceous rock may range from an argillite through phyllite to a true schist or graphitic schist as it is traced from an open fold to a tight fold or its proximity to the northerly trending fault structures. In many places along the northerly trending fault zones, as mapped by different geologists, argillites are changed to a very soft and possibly pure graphitic schist. The areas of graphitic schist along the northerly trending fault zones and areas of tight folding described above can easily be mapped with the electromag due to the conductivity of the graphite.

The thickness of the formatons of the Cariboo group cannot be measured directly due to the few and poor outcrops together with the intricacy of structure. The folding is known in general but the details are very rarely recognizable and measurements are liable to include duplications. According to A. Southerland Brown in Bulletin No. 38 (B.C. Department of Mines) the thickness is deemed to be less than 1200 metres.

The age of the Cariboo Group is now determined to be early Cambrian and younger. Earlier publications by Bowman, Johnston and Uglow and George Hanson placed the age of the Cariboo Series (Cariboo Group) as Pre-Cambrian. No fossils have been found in the group within the general area and the age is assigned on the basis of archaeocythids and trilobites collected at Turks Nose Mountain, Kemball Creek and others localities within a thick limestone. This limestone has been traced through a major plunging syncline into the Cunningham limestone in the vicinity of Roundtop Mountain. This same limestone has been traced into the north central portion of the claim block (Eight Mile Lake area) by Brown and others. <u>The Cunningham limestone is the basal formation of the Cariboo Group</u>. The other younger members of the Cariboo Group outcrop in the southern portion of the claim block. Intrusive rocks in the form of dykes and sills outcrop in the central portion of the claims along Shepherd Creek.

#### STRUCTURE

The general structure in the area of the claims is a broad northwesterly plunging anticline with local minor but sharp folding on the northeast limb. The antiformal axis, as mapped by most observers, is situated some seven miles southwest of the claim block near the top of Mt. Burns, Mt. Amador and Mt. Nelson, with a N  $50^{\circ}$  -  $60^{\circ}$  west bearing. In the main, the folding within the area of the claims seems

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simple, but in some places minor folds can be observed where the dip changes to 45° and some local evidence of overturning to the southwest. In this general area, the Cariboo Group has been folded at least twice. The more intense folding took place before the younger Slide Mountain group was laid down. Immediately south of Eight Mile Lake in the northern portion of the claim block, Southerland Brown in B.C. Department of Mines Bulletin No. 38 maps a northwesterly trending overturned anticline within the Cunningham Limestone Formation. Outcrops in the area of the claim block are too scarce to confirm this structure, however, to the southeast, where there are more outcrops, this complex structure can be identified. Immediately southwest of this overturned axis, G. Hanson in G.S.C. Map 336A (east half) and others map a fault contact between the Cunningham Limestone and the overlying schist, argillite, slate and quartzite of the Yankee Belle Formation of the Cariboo Group. There is some possible evidence of this fault contact in the adit at Thistle Pit some 400 metres south of the overturned anticlinal axis. Other contacts between the various members of the Cariboo Group as mapped by Brown, Hanson and others, in the area of the claim block, are very difficult to identify in the field due to the scarce and poor outcrops.

Other major structural trends identified on the claims are both northerly and northeasterly trending faults. A possible extension of the northerly trending Lowhee Fault, located along Lowhee Creek and, also mapped in the underground workings of the Cariboo Gold Quartz Mine to the south, can be observed along the Downey Pass road near the center of the claims. There are numerous outcrops of broken and altered argillite, phyllite, schist and slate with quartz viens and some pyrite along the road cuts. The second major northerly trending fault mapped in the mine area and located some 700 metres west of the Lowhee fault, identified as the Rainbow fault, does not outcrop in the area of the claims. There is abundant quartz float on the hillside some 700 metres west of the Downey Pass road and the electromag profiles all have a strong anomaly in the same area. All of the above described conditions could well indicate a possible extension of this fault also into the claim block. The strong and continuous northeast trending fault zone in the Summit Creek area in the northeast portion on the claim block has been mapped by several different geologists in the field. The fault was mapped by the writer in the bed of Summit Creek when exposed by placer gold operations in 1982. Bedrock outcrops in and near the canyon of Summit Creek immediately north of the claim block were used to identify the fault in this area. This strong fault is also indicated on the electromag profiles crossing this portion of the claim block. Other northeast trending faults have been mapped in the bedrock outcrops immediately north of the claim block and have been projected into the area of the claims. The fairly strong and continuous northeast trending fault (EML Fault) near the northwest end of Eight Mile Lake, very possibly projects into the Mosquito Creek Mine area. In the area of the intersection of the Downey Pass Fault zone (Lowhee Fault) and the northeast trending EML Fault, near the north central portion of the claim block, extremely strong conductive zones were recorded of the electromag profiles (lines numbers 3, 4, 5, 6, 7). This area of strong electromag anaomalies and favourable geology has been targeted as the No. 1 drilling prospect of the three areas outlined for testing with the drill. Other possible northeast trending faults are indicated on the electromag profiles south of Eight Mile Lake.

#### Mineralization and Origin of Ore Deposits

The earliest quartz mineralization seen in this general area in the Cariboo group, is in the form of narrow bed veins formed mainly or entirely by the replacement of narrow bands of rock. They are known to be early because they are folded with the strata. Other bands of silicified clastic sediments are very similar to these veins but they are clearly silicified rock <u>bands</u> and <u>not</u> quartz veins. They are cut by transverse quartz veins and the silicification shows no relation to them, suggesting that the silicified rock bands are definitely earlier than the veins cutting them.

After the formation of the early bed veins and the silicification of some beds, the rocks were subjected to fracturing and the fractures were mineralized with quartz to form the transverse and diagonal veins. The fractures in which the transverse and diagonal veins occur were formed <u>after</u> the rocks were folded and sheared. The shapes and pattern of the fractures indicate that they were formed by

compression, tension and also torsion. The wall rock of the veins contains a great deal of coarsely crystalline pyrite. Pyrite cubes occur many feet from any vein also, but a great many examples serve to show that pyrite is <u>more plentiful near</u> veins, therefore there seems little doubt that the pyrite was formed from constituents moving outward from the vein fractures. All of the placer gold operations in the area of the claims reported heavy pyrite concentraton in the sluice boxes. The <u>transverse and diagonal veins produced the majority of the ore in the Cariboo Gold Quartz Mine</u>. The strike and bed veins are not too munerous and so far has known, have produced much lower gold values than the normal pyritic transverse and diagonal veins. Only a few bed veins have been observed. The bed veins are quite thin, composed of quartz and contain no pyrite or gold. Some ore shoots were mined on the strike vein, known as the B.C. Vein. Gold values were lower than in the transverse and diagonal veins. Other strike veins will have to be worked before this type of vein can be called non-commercial.

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The other main type of lode gold deposit in the Cariboo group is one formed by the replacement of limestone. The ore is typically a solid mass of fine grained pyrite. This type of deposit was first recognized in the Cariboo in 1933. The largest of this type of deposit was found in the Island Mountain Mine. The presently producing Mosquito Creek Mine produces a great deal of its gold from this type of deposit. The ore in this type is in general, higher in gold values than the transverse and diagonal veins. The highest gold values are obtained from these massive fine grained pyrite replacement type ore bodies. Gold values as high as 5 ounces per ton are obtained from these massive fine grained pyrite deposits. The ore is massive but commonly contains bands of ore separated by bands of grey ankerite or phyllite. Near the fringes of the ore bodies, ankerite becomes dominant and pyrite becomes more sporadic and coarser grained. There may be some silicification also near the fringes of the ore body with minor amounts of galena, sphalerite, arsenopyrite and scheelite. Minor amounts of galena and arsenopyrite were found in the Downey Pass area near the center of the claim block.

The gold mineralization is believed to be later than the formation of the quartz veins. <u>The quartz veins are later than most of the northerly trending faults</u> because they are concentrated beside or near the northerly faults, they occur in a

conjugate set of fractures related to the faults and in some instances, actually occur within the fault. The gold mineralization is believed to be older than the gold bearing Terfiary gravels. This would date the gold mineralization in this area between the Carboniferous and Early Tertiary.

#### **RESULTS OF EXPLORATION TO DATE**

The results of the exploration to date on the EML #1-6 mineral claims are considered to be very favourable. The VLF electromag surveys were able to map the extension of the northerly trending faults mapped in the underground workings of the Cariboo Gold Quartz Mine into the area of the claims. The electromagnetic survey was also able to map some fairly strong and continuous northeast trending anomalies corresponding to northeast trending faults mapped in the general area by government publications. The anomalies or conductive zones mapped by the electromag are no doubt due to the alteration of the argillite to graphite or graphitic schist in proximity to the faulting. The intersection of the major faults produces sizeable areas of alteration and mineralization. Lithogeochem samples across these zones indicate significant base metal mineralization, together with gold and silver.

In the 1986 diamond drill programme on the EML #1-#6 claims, the more potential and better mineralized areas could not be cored due to the broken bedrock with chert fragments. Three angle holes were located to intersect the mineralized zone some 200 to 300 feet below the surface. The zone could not be penetrated due to caving in the hole near the contact. These better zones will have to be drilled with the reverse circulation type drill as recommended in the report.

One hole drilled during the 1986 diamond drill programme (DDH #1) produced some very interesting and possibly significant data. The hole was located on the down dropped side of a fault contact between the Cunningham limestone and the overlying quartzose phyllites of the Yankee Bell Formation. The hole was drilled at a -600 angle with a S500W bearing to intersect the nearly vertical fault mapped by Southerland Brown in B.C.D.M. Bulletin 38, some 350 feet below the surface. Subsequent work in this area by L.C. Struik of the GSC, maps this fault as a low

angle thrust fault placing the Cariboo terrane over the Barkerville Terrane. The 580 foot hole with a vertical penetration of 500 feet and 300 feet horizontally encountered dark gray to black quartz-muscovite phyllite cut by quartz-dolomitepyrite veins with low grade gold mineralization varying from a low of 0.002 oz/T to 0.014 oz/ton over some 400 feet of the core. The hole had to be abandoned due to broken ground and caving conditions. Intervals selected for assay averaged some 10 feet in length. One sample (#A12-86) was hand picked from 6" core of quartz containing less than 20% massive and cube pyrite, assayed 0.196 oz/T gold and 0.12oz/T silver. The 10 foot assayed interval which contained this 6" sample assayed only 0.002 oz/T gold. Thirteen of the 16 samples assayed were split core over an average of 10 feet assayed 0.002 oz/T gold and 0.01 oz/ton silver. Samples #A-14-86 and A-14-A-86, were "chips" or pieces of core over two 10 foot intervals of badly broken core of similar rock type with more gouge and graphite in the last 20 feet of the hole from -540 to -560. The samples assayed 0.014 oz/T Au, 0.07 oz/T Ag and 0.010 oz/T Au, 0.25 oz/T Ag respectively. As stated earlier the hole had to be abandoned at -580 feet due to caving. Thin section studies of the core by Geotex Consultants Ltd. identified the rock as a, quartz-muscovite phyllite cut by quartz-dolomite-pyrite veins. The studies divided the veins into three types based on age of formation. The early quartz veins of quartz-dolomite-pyrite developed during deformation and metamorphism of the rock. The intermediate quartz dolomite with no sulphides probably were formed during metamorphism. The late guartz-dolomite pyrite veins which cut the intermediate veins and are oriented sub-parallel to bedding were developed after folding and metamorphism of the rocks. This area warrants further exploration work as recommended in the report.

The 1987 shallow down hole hammer drilling was designed to get bedrock samples across the two northerly trending faults near the center of the claim block. Seven holes from 60 to 100 feet deep were drilled over the 800 meter distance. Holes Nos. one through four are spaced 50 metres apart across the northerly projection of the Lowhee Fault. Hole #6 (600 metres west) is located near the northerly projection of the Rainbow Fault and the intersection with the northeast-southwest trending EML Fault. In the area of hole #6 numerous quartz boulders were encountered in the overburden. Twenty-three 10 foot samples were selected for assay for gold and ICP 30 element analysis. Most of the gold assays varied from

.002 to .003 oz/T gold. Two samples #1113 and #1114 from holes number 4A and 5 assayed .007 oz/T gold. The holes are located on the west side of the Lowhee Fault Zone.

The ICP geochemical assays of the 23 samples contains some very significant conclusions which are tabulated below:

- 1. Holes #1 through #6 had samples with copper values in excess of 150 ppm.
  - 2. Holes #1 through #6 had samples with zinc values in excess of 200 ppm.
  - 3. All seven holes had samples which assayed at least 1.3 ppm silver. The highest silver values of 4.1 ppm were encountered in hole #1.

The predominant rock type in all 23 samples was a dark gray to black argillite highly fractured with varying amounts of quartz and pyrite mineralization. In many samples there was varying amounts of graphite and in some samples chert was encountered in the argillite. A detail log of all seven holes which includes a description of each of the 23 samples is included in the Appendix of the assessment report by the writer dated May, 1988.

The exploration field work over the past ten years, in the area of the EML #1 -#6 claim block, has confirmed the presence of both northerly and northeasterly trending faults as shown on government publications of the area. Detail field studies of outcrops along the northerly trending Downey Creek fault, near the center of the claims, indicates numerous areas of quartz veins, altered argillite, gold-pyrite mineralization, severe brecciation and oxidation of pyrite. The entire area of the fault contains abundant pyrite. This fault zone along Downey Creek appears to be and probably does represent the northerly extension of the Lowhee fault mapped in the underground workings at the Cariboo Gold Quartz Mine to the south. The other northerly trending fault mapped in the mine area and located approximately 700 meters west of the Lowhee fault was not mapped in the area of the claims due to the scarcity of outcrops. It was noted in the field that there was a abundant quartz float in the glacial drift about 700 metres west of the Downey Creek fault. Electromag profiles showed strong conductive zones or anomalies also in the area some 700 metres west of Downey Creek. The northeast trending faults were mapped in outcrops immediately north of the claim block. The strong northeast fault along Summit Creek was identified in placer gold operation in the creek bed by the writer in 1982. The fault zone was very similar to the Downey Creek fault in that there was a high degree of brecciation of the argillite, some alteration to graphitic schist and abundent pyrite. The other strong northeast trending fault located near the northwest end of Eight Mile Lake and called the EML fault has been identified on the electromag work south of the lake. In this area where the northerly trending Downey Creek or Lowhee fault would intersect the northeast trending EML fault, the electromag profiles recorded very strong conductive zones or anomalies. The stronger and more persistent anomalies showed a north-south trend.

The VLF-EM lines run during the 1989 field season in areas of active placer gold operations in both the Downey Pass and Pinus Creek areas of the EML claim block produced some very interesting and potential data. In the Downey Pass area there appears to be a correlation between anomalies on the VLF-EM lines and areas of large and abundant quartz veins. In the Pinus Creek area, several well defined and persistent possible structural trends were identified on the VLF-EM lines. The more important trends identified are: North 49° to 53° West; North 27° to 33° West; North 10° to 15° West and a strong northeast trend of North 36° to 40° East. These trends are all parallel to the structural trends shown on the base maps taken from various government publications identified in the legend of the maps. Some of the alignments are also parallel to the northwest-southeast trending geological contacts also identified on the map. The low angle thrust fault mapped by L.C. Struik in G.S.C. Open File #858 publication is present in the area of the trends from the VLF-EM work.

Recent placer mining in the Pinus Creek area has exposed bedrock along the west side of the northerly flowing creek. The cleared area extends some 150 metres west of the creek. Bedrock within this area has been exposed and cleaned by the existing placer operations. Three north-south VLF-EM lines were run within the cleared including the baseline some 50-75 metres west of the creek. The baseline

runs some 1.1 km south of the confluence of Shepherd and Pinus Creeks. Other lines were run east and west from the baseline as shown on the enclosed map.

#### RESULTS OF THE REVERSE CIRCULATION DRILLING - JUNE 1991

During the period June 4th through June 12th, 1991, seven days of reverse circulation drilling was carried out on the EML claim block. During this time, 11 holes were completed with a total of 1,720 feet or 524 metres. The deepest hole was RCH #1-P-91 which was drilled to a depth of 280 feet or 85.3 metres. The hole was still in altered argillite with quartz and pyrite mineralization but was going very slow due to broken ground and water under some pressure. Sample RCS #22 taken from the bottom 10 feet of the hole, assayed .002 ozs/ton gold. This is as high as any of the 25 samples taken. Of the 25 samples taken for assay, two assayed .002 ozs/ton gold and the other 23 ran .001 ozs/ton gold. The lower values are hard to understanding since the cuttings appeared to have quite a bit of quartz and pyrite mineralization and this association carried most of the gold in the old Cariboo Gold Quartz Mine at Wells (see Paragraph 2 under "History"). The gold values were verified by Chemex Labs.

Twelve of the original 25 samples were put over a 12.5 mesh screen. The two samples which ran .002 ozs/ton gold on the original assay gave the same value of .002 ozs/ton gold on both the +12.5 mesh portion as well as the -12.5 mesh part. On all of the other 23 samples the separated samples of +12.5 mesh and -12.5 mesh screen gave the same value of .002 ozs/ton gold. Under the microscope the +12.5 mesh fraction appeared to have more quartz and massive pyrite and should have run higher in gold values. It is very possible that most of the gold values have been leached out of the formation since the hole was in a broken zone near a fault and the high pyrite content gave the necessary iron and sulphur for the leaching. Even though the holes contained water they were all above the water table. Some of the recent work in Nevada drilling does not restrict leaching to above the water table. It is also possible that the 10 foot interval was too large an interval for this type of mineralization and too much waste got into the sample and could not be sorted out. More work is needed in an effort to get some answers. Deeper holes should be drilled in any event.

The location of the 11 reverse circulation holes drilled in June 1991 is shown on the geological-geophysical map in the pocket of the report. The holes were numbered RCH #1-P-91 through RCH #10-P-91 and RCH #2A-P-91 for a total of 11 holes. A total of 1,720 feet or 524 metres were drilled during the seven days. Samples were collected every 10 feet for a total of 172 samples. Each sample was collected in a cyclone separator where excess air and/or water was removed. The sample was then split on a Jones splitter and a resonably sized sample bagged and transported to my field office for drying, cutting and further examination under the microscope and logged. The logs of all samples are tabulated in the Appendix of the report. The log indicates and numbered samples selected for assay. The 25 samples selected for assay and/or ICP analysis are tabulated in the Appendix of the report. The gold-silver assay results for the 25 samples is also tabulated in the Appendix on assay sheet #K10431 from Kamloops Research & Assay Laboratory Ltd. The results of the four I.C.P. analysis by the same lab is also enclosed in the Appendix.

Twelve of the original 25 samples selected for assay were separated further over a 12.5 mesh screen into +12.6 mesh separation and -12.5 mesh portion. When the two portions were assayed, they both gave the same gold values as the original assay of the full unseparated sample. Samples RCS #7 and RSC #22 which gave the higher gold values (.002 ozs/ton) on the full unseparated sample gave the identical .002 ozs/ton gold value on each separated portion (+12.5 and -12.5 mesh) of the sample. The +12.5 portion contained much more quartz and pyrite than the -12.5 portion and should have had higher gold values. It is very possible that the samples came from an area of broken rock rich in pyrite that there has been leaching of the gold in the area of drilling. As stated earlier, Sample RCS #22 came from the bottom 10 feet of Hole RCH #1 some 270 to 280 feet below the surface. The hole was still in broken rock and water under some pressure. It is very possible that most of the drilling was above the water table and the water encountered in the drilling was from the fault zones and broken rock.

The location and orientation as well as the depth of each hole is tabulated in the appendix of the report.

#### CONCLUSIONS AND RECOMMENDATION

The reverse circulation drilling carried out on the EML claims in June 1991 is not considered conclusive in the evaluation of the exploration data obtained over the past ten years of work on the claim block.

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Further exploration is highly recommended in the form of more detail drilling and also deeper drilling.

The monies expended in the reverse circulation drilling should be filed and the claims held for a minimum of five years.



November 13, 1991

Respectfully submitted,

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# APPENDIX

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#### CERTIFICATE

I, William Howard Myers, do hereby certify that I am an independent geologicalgeophysical consultant with offices at Suite #620 - 602 West Hastings Street, Vancouver, B.C., V6B 1P3, British Columbia. I have been actively engaged in my profession as an independent consultant in both oil and mining since 1952. I am a professional geologist, P.Geol., member #16704 of the Association of Professional Engineers, Geologists and Geophysicists of Alberta. I am also a member P.Eng., #14056, of the Professional Engineers of British Columbia. I also hold a Life Membership in both Societies.

I graduated from Fresno State College, Fresno, California in 1939 with high honors and a B.Sc. degree in Geology. I did graduate work at Stanford University, Stanford California for M.Sc. degree in Geology, 1939-1941. After graduating I spent three years as a field geologist for the U.S. Geological Survey and eleven years working in the field and management of a company engaged in geophysical exploration work for both oil and minerals before entering the consulting field in 1952.

Since 1964 the majority of my time has been spent in the exploration for both placer and lode gold deposits in the Cariboo Region of British Columbia. During the past five years I have carried extensive geological and geophysical surveys for lode gold deposits in the general Wells-Barkerville area including the Barkerville Gold Belt. In 1980 I was successful in organizing and supervising a helicopter electromagnetic-magnetic survey of the Wells-Barkerville region for one of my clients. The survey covered some 75 square miles with 240 miles of line flown on a quarter mile line spacing. Other ground electromagnetic surveys using such input systems as Max-Min II and VLF Systems have been carried out in the general area with very good results in mapping geological contacts and the more prominent fault trends. The shallow refraction seismograph has also been used to identify types and conditions of bedrock as well as the depth to bedrock.

During May and June, 1991, I worked out of my field office in Wells, B.C. locating drill sites for the reverse circulation drilling on the EML claim block which was carried out during the period June 4th through June 12, 1991. During this time I checked VLF-EM profiles in the area of drilling ran during 1989-1990 field season and marked drill stations. During the drilling, I checked samples and logged cuttings. I also supervised the plugging of holes and clean-up drill locations. The assessment work report was completed and work filed.



W Howard miles

Wm. Howard Myers, P.Eng. (B.C.) P.Geol. (Alta) Geological-Geophysical Consultant Vancouver, B.C.

November 13, 1991

W.M. HOWARD MYERS, P.GEOL., P.ENG.

## APPENDIX NO. 1

# DRILL HOLES LOCATION, ORIENTATION AND DEPTH

## REVERSE CIRCULATION DRILLING ON EML CLAIMS JUNE 1991

Hole No.	Location (VLF-EM Line No.)	Hole Dir.	Depth
RCH #1-P-91	Line 0+80W, 1+70S	Vertical	280' (85.3 m)
RCH #2-P-91	Line 0+80W, 3+20S	-60° West	130' (39.6 m), water
RCH ∦2A-P-91	Line 0+80W, 3+20S	Vertical	140' (42.7 m), water stop
RCH #3-P-91	Line 0+00 Base L. 3+205	Vertical	170' (51.2 m), water
RCH #4-P-91	Line 0+80W, 2+52S	Vertical	140' (42.7 m)
RCH #5-P-91	Line 0+75E, 3+75S	Vertical	140' (42.7 m), water stop
RCH <b>#6-</b> P-91	Baseline 2+20S	Vertical	130' (39.6 m)
RCH #7-P-91	Line 4+50S, 2+75W	\$75W,-60°	220' (67.1 m)
RCH #8-P-91	Line 4+87S, 3+55W	-60°, S75W	100' (30.5 m)
RCH #9-P-91	Line 7+00S, 1+50W	-60° West	200' (60 <b>.</b> 96 m)
RCH #10-P-91	Line 0+75E, 5+00S	Vertical	70' (21.1 m)

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Total Drilled 1,720' (524.4 m)

# APPENDIX NO. 2

## TABULATION OF ASSAY SAMPLES

# SAMPLES SENT FOR ASSAY ON REVERSE CIRCULATION DRILLING ON EML CLAIMS, 1991

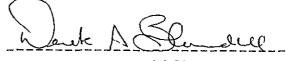
Sample No.	From Hole No.	Depth	Assay For
EML RCS #1	1	80 - 90	Au, Ag
#2	1	160 - 170	Au, Ag
#3	1	180 - 190	Au, Ag, ICP
#4	1	200 - 210	Au, Ag, ICP
#5	2	50 - 60	Au, Ag
#6	2A	60 - 70	Au, Ag
#7	3	90 - 100	Au, Ag
#8	3	160 - 170	Au, Ag
<i>#</i> 9	7	90 - 100	Au, Ag
#10	7	180 - 190	Au, Ag
#11	7	210 - 220	Au, Ag
#12	9	40 - 50	Au, Ag, ICP
#13	5	120 - 130	Au, Ag, ICP
#14	7	190 - 200	Au, Ag
#15	7	100 - 110	Au, Ag
#16	7	150 - 160	Au, Ag
#17	7	170 - 180	Au, Ag
#18	7	160 - 170	Au, Ag
#19	1	170 - 180	Au, Ag
#20	1	190 - 200	Au, Ag
#21	1	210 - 220	Au, Ag
#22	1	270 - 280	Au, Ag
#23	3	100 - 110	Au, Ag
#24	3	110 - 120	Au, Ag
#25	3	120 - 130	Au, Ag

## APPENDIX NO. 3

ASSA YS

اف	KAMLOOPS	B.C. CERTIFIED ASSAYERS	
	RESEARCH & ASSAY	912 - 1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112	
	LABORATORY LTD.	** ASSAY CERTIFICATE **	
	To: Mr. W. H. Myers 814-602 West Hastings	Number: <sup>K</sup> 10431	
-	Vancouver, B.C. V6B 1P3	Date:July 8, 1991	
í	Attn:	Proj.:	

	NO.	Description	Au ozs/ton	Ag ozs/ton			
	1	EML RCS 1	<.001	<.01		 	 
أنتحذ	2	EML RCS 2	<.001	<.01			
	3	EML RCS 3	<.001	<.01			Ì
	4	EML RCS 4	<.001	<.01			
-	_						
	5	EML RCS 5	<.001	<.01			ļ
	6	EML RCS 6	<.001	<.01			
1	7	EML RCS 7	.002	<.01			{
	8	EML RCS 8	<.001	<.01			
ł	9	EML RCS 9	<.001	<.01			
	10	EML RCS 10	<.001	<.01			
	10	EML RCS 10 EML RCS 11	<.001	<.01			
[	12	EML RCS 12	<.001	<.01			
tana d	13	EML RCS 13	<.001	<.01			
1	14	EML RCS 14	<.001	<.01			
	15	EML RCS 15	<.001	<.01			
	16	EML RCS 16	<.001	<.01			
	17	EML RCS 17	<.001	<.01			Į
أنسا	18	EML RCS 18	<.001	<.01			
	19	EML RCS 19	<.001	<.01			
	20	EML RCS 20	<.001	<.01			
	21	ENI DCC 21	< 0.01	4 01			
	21	EML RCS 21	<.001	<.01			)
	22	EML RCS 22	.002	<.01			
hannel	23	EML RCS 23	<.001	<.01	•		
	24	EML RCS 24	<.001	<.01			ĺ
	25	EML RCS 25	<.001	<.01			
-							



	JUL 1 2 1991
KAMLOOPS	B.C. CERTIFIED ASSAYERS
RESEARCH & ASSAY 912-	1 LAVAL CRESCENT, KAMLOOPS, B.C. V2C 5P5 PHONE (604) 372-2784 FAX 372-1112
LABORATORY LTD.	** ICP ANALYSIS **
■ To:Mr. W. H. Myers 814-602 West Hastings St	Number: <sup>K</sup> 10431
Vancouver, B.C. V6B 1P3	Date: July 10, 1991
	Proj.:
Attn:	

Element	Reported In	Sample No. EML RCS 3	Sample No. EML RCS 4	Sample No. EML RCS 12	Sample No. EML RCS 13
 Mo	mqq	1	1	1	1
Cu	ppm	45	52	55	45
Pb	ppm	2	Э	8	9
Zn	bbw	106	141	109	72
Ag	ppm	0.3	0.3	0.4	0.4
Ni	ppm	230	228	103	176
Co	ppm	42	40	29	34
`Мл	ppm	639	625	1034	702
Fe	percent	6.50	6.00	5.45	6.50
As	ppm	251	267	8	129
U	ppm	5	5	5 ·	5
Au	ppm	4	3	ОИ	ND
Th	mad	1	1	1	i
Sr	ppm	150	262	341	185
Cd	ppm	0.6	0.7	0.2	6.2
Sb	ppm FF	2	2	5	4
Bi	ppm	2	2	. 2	2
V	ppm	39	20	35	15
Ca	percent	2.37	3.80	11.36	6.55
Р	percent	0.042	0.045	0.099	0.070
La	ppm	З	З	4	З
Cr	ppm	231	134	108	51
Mg	percent	6.55	4.95	1.93	3.52
Ba	ppm	176	115	31	222
Ti	percent	0.01	0.01	0.01	0.01
в	ppm	2	2	З	2
A1	percent	1.50	0.65	1.36	0.33
Na	percent	0.03	0.03	0.01	0.04
κ	percent	0.06	0.08	0.11	0.03
Ŵ	ppm	1	1	2	1

ANOMALOUS RESULTS: FURTHER ANALYSES BY ALTERNATE METHODS SUGGESTED

## APPENDIX NO. 4

## LOG OF HOLES

W.M. HOWARD MYERS, P.GEOL., P.ENG.

LOG OF REVERSE CIRCULATION HOLE #1 RC-P-91

Location:	:	Geological Map
Dip & Direction	:	Vertical
Date	:	June 4 & 5, 1991
Depth	:	280 ft (85.3 m)

Logged June 17-22, 1991 by Wm. Howard Myers, P.Eng.

Depth	Description
(ft)	
5 - 20	Lt. grey to white argillite, some alteration, some quartz to pyrite – broken and some weathery, no sample assay
20 - 30	Lt. to dark grey or black phyllite or argillte, some quartz and pyrite min., some oxidation and broken, no sample assay
30 - 40	Lt. grey quartz phyllite, some pyrite and qtz min – broken, some oxidation, no sample assay
40 - 50	Dark grey to black phyllite or argillite, some qtz and pyrite min.
50 - 60	Dark grey to black argillite, more quartz, some pyrite mineralization no assay sample
60 - 70	Light grey to white fragments of argillite and quartz with some light green possible intrusive rock, some pyrite, no assay sample
70 - 80	Light gray to black argillite with quartz fragments (more) alteration more sericite, some pyrite mineralization with qtz, some cube pyrite in argillite, no sample assay
80 - 90	Lt. grey to green altered and qtz porphy intrusive, more qtz and pyrite mineralization. Sample #1
90 - 100	Dark grey to black phyllite massive and cube pyrite-qtz phyllite, pyrite cube min. on fractures, no sample assay
100 - 110	Light grey to black phyllite, very platy, little or no quartz-pyrite mineralization, no sample assay
110 - 120	Dark grey to black phyllite, some quartz and pyrite min. Thin massive pyrite in phyllite cleavage also qtz veinlets with pyrite, no assay sample, check later with assay, no sample assay 1st - 2nd time.

Depth	Description
(ft)	
120 - 130	Last sample
130 - 140	Dark grey to black argillite, some qtz and pyrite min., no sample assay
140 - 150	Dark grey to black quartz phyllite, some quartz and pyrite min., no sample assay
150 - 160	Dark grey to black quartzose phyllite, thin veinlets of quartz and pyrite min., veinlets in cleavage and cross grains
160 - 170	Dark quartz phyllite with some quartz and pyrite min., more quartz pyrite fragments, possible assay and in acid carbonate in quartz and pyrite veins, Assay Sample #2
170 - 180	Some black argillite fragments as above interval. Max of sample light grey to green quartz porphyry inclusive, some carbonate (minor), possible galena (massive in intrusives as well as pyrite, minor carbonate, 2nd Stage Assaying - No Assay #19
180 - 190	Light grey to gr. gray quartz porphy intrusive, good pyrite min. few pieces of black phyllite with pyrite, possible contamination. Good Geochemical Analysis, F gold, Sample #3
190 - 200	Same as above with more black argillite pyrite same, 2nd Stage Assay, #20
200 - 210	Light grey to green quartz porphy, well disseminated pyrite, possible galena and moly min. Geochem Analysis, Sample #4
210 - 220	Light grey, some green argillite with pyrite similar to above, more black argillite, pyrite in quartz. 2nd Stage Assay, Sample #21
220 - 230	Same as above, more black argillite less pyrite, no assay, possible 2nd stage assay
230 - 240	Same as above, more black argillite, less pyrite min., more phyllite, no assay sample
240 - 250	Dark grey to black argillite with quartz and pyrite min., more wh quartz, no pyrite, no assay sample
250 - 260	Black phyllite or argillite, some quartz less pyrite, no acid action, no carbonate, no assay sample

Depth (ft)	Description
260 - 270	Dark grey to black argillite or phyllite, more quartz, some pyrite, no assay sample
270 - 280	Same as above, more pyrite and quartz min. and cube pyrite, 2nd Stage Assay, #22.

T.D.

## LOG OF REVERSE CIRCULATION HOLE #2 RC-P-91

Location:	:	Geological Map
Dip & Direction	:	-60° West
Date	:	June 6, 1991
Depth	:	130 ft (39.6 m)

Logged June 17-22, 1991 by Wm. Howard Myers, P.Eng.

Depth	Description
(ft)	
10 - 20	Light grey phyllite, some brown oxide stain, badly broken, no pyrite, no assay sample
20 - 30	Dark grey to black phyllite, some frag of quartz and pyrite min., few cube pyrite, no assay sample
30 - 40	Same as above, no assay sample
40 - 50	Dark grey to black phyllite, some pyrite cubes and veinlets on plateny, some oxide iron on fractures, some quartz along plating and cross-fractures, no carbonate, no sample assay
50 - 60	Quartz phyllite, more quartz and more pyrite min., no carbonate, Assay Sample #5
60 - 70	Same as above, more quartzite, less pyrite, no sample assay
70 - 80	Light grey to dark grey altered phyllite, highly silicified, some pyrite and quartz min., somme leaching, no sample assay
80 - 90	Light grey to dark grey phyllite similar to above, more silification, less pyrite, no carbonate, no sample assay
90 - 100	Light grey leached argillite, little or no pyrite or quartz min., some intrusive quartz porphy, some oxidation or pyrite, no sample assay
100 - 110	Light grey quartz porphy or intrusive material, some pyrite, some quartzite material, no carbonate, no sample assay
110 - 120	Same as above, higher and more fractured, less or no pyrite min.,
120 - 130	leached hole making water, no sample assay Same as above, some quartz, nor or little pyrite, no assay sample
	T.D. 130 too much water

## LOG OF REVERSE CIRCULATION HOLE #2A RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	Vertical
Date	:	June 7, 1991
Depth	:	140 ft (42.7 m) too much water

Logged June 17-22, 1991 by Wm. Howard Myers, P.Eng.

Depth (ft)	Description
0 - 10	Soil and broken bedrock
10 - 20	Light to medium grey phyllite, soft, no quartz or pyrite min., no assay sample
20 - 30	Same as above, no sample assay
30 - 40	Medium to dark grey phyllite or argillite, some quartz, minor pyrite, no assay sample
40 - 50	Same as above, more quartz and pyrite min., some pyrite cubes also, no sample assay
50 - 60	Same as above, most pyrite cubes, some black argillite or phyllite, no assay sample
60 - 70	Dark grey to black phyllite or argillite, more quartz and pyrite min., some cubes, no carbonate, Sample Assay #6
70 - 80	Dark grey argillite, some quartz, less pyrite than above, no sample assay
80 - 90	Same as above, more black phyllite and argillite, less quartz and pyrite min., no sample assay
90 - 100	Same as above, lighter color, some leaching and oxidation broken, no assay sample
100 - 110	Light to medium grey phyllite or argillite, some leaching and oxidation of pyrite broken, large prieces of rock, minor quartz and pyrite min., massive and cube pyrite, no calcite, no sample assay

Depth	Description
(ft)	
110 - 120	Same as above, more leaching, breaking, less pyrite, no sample assay
120 - 130	Medium grey altered silicified argillite, minor quartz porphy?, minor pyrite, no sample assay
130 - 140	Same as above, altered and silicified, minor pyrite, darker pyrite, possibly pyrrhotite along platey cleavage (minor), no sample assay
140 - 150	Medium to light grey leached, silicified phyllite and/or grit, minor pyrite, no sample assay
150 - 160	Same as above, more darker pyrite or pyrrhotite, phyllite leached- soft and broken, some water in hole, no sample assay
160 - 170	Light grey leached argillite, no pyrite, no sample assay
170 - 180	Light grey grit or argillite leached, broken, no min., silicified, no sample assasy

T.D.

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## LOG OF REVERSE CIRCULATION HOLE #3 RC-P-91

Location:	:	Geological Map
Dip & Direction	:	Vertical
Date	:	June 9, 1991
Depth	:	170 ft (51.2 m)

Logged June 17-22, 1991 by Wm. Howard Myers, P.Eng.

Depth (ft)	Description
0 - 10	Soil broken rock
10 - 20	Dark grey to black phyllite or argillite, fine grained massive pyrite, broken and altered, no assay sample
20 - 30	Same as above, more platy, some graphite, no sample assay
30 - 40	Same as above, harder, no pyrite, no sample for assay
40 - 50	Same as above, smaller cuttings with some pyrite and quartz min., start of alteration and mineralization, no sample asay
50 - 60	Dark grey to black argillite or phy, minor quartz and pyrite min., no assay
60 - 70	Same as above, less pyrite and quartz, no sample assay
70 - 80	Same as above, more black, less quartz and pyrite min.
80 - 90	Light grey to black argillite or phyllite, more quartz and pyrite min., no assay
90 - 100	Dark grey to black argillite or phyllite, pyrite min. in argillite or phyllite little or no quartz min, Sample for Assay, #7, gold-silver
100 - 110	Same as above, good pyrite in phy or arg, same as Sample #7, possibly assay later, gold values same as 90–100, no carbonate, #23
110 - 120	Same as above, less pyrite min., more quartz min. with pyrite, pyrite in phyllite or argillite as above, approx. 75% of Sample #7, <b>#24</b>

Depth	Description
(ft)	
120 - 130	Similar to #7 assay sample, argillite or phyllite with pyrite and some quartz min., <b>#25</b>
130 - 140	Same as above, less pyrite, probably 50% of Sample #7, no assay sample
140 - 150	Dark grey to black argillite, fine grained pyrite, more quartz with pyrite, less pyrite in phyllite, no assay sample
150 - 160	Dark grey to black, less or little pyrite, no assay, <b>#16</b>
160 - 170	Dark grey argillite or phyllite, some pyrite in argillite and quartz and pyrite mineralization, Assay Sample #8
	T.D. water stop

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- 2 -

#### LOG OF REVERSE CIRCULATION HOLE #4 RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	Vertical
Date	:	June 10, 1991
Depth	:	140 ft (42.7 m)

 (ft)	Description
0 - 10	Light brown to reddish brown oxidized, possible volcanic rock or volcanic intrusive with iron, no assay
10 - 20	Brown to light grey dense rock volcanic, no assay
20 - 30	Brown to grey dense rock, possible volcanic, may be silicified grit, brown is oxidized pyrite, no assay
30 - 40	Same as above, less reddish brown ox. pyrite, no assay sample
40 - 50	Same as above, no visible pyrite, possible magnetite?, no assay sample
50 - 60	Same as above, no visible pyrite, lots of iron oxide stain, no assay
60 - 70	Light grey to green silicified rock with iron oxide staining and blebs of oxide, no pyrite visible, no assay sample
70 - 80	Same as above, less iron oxide, appears to be altered and silicified, no assay sample
80 - 90 .	Same as above, more light grey dense silicified rock, some iron oxide, some quartz, no visible pyrite, some material appears to be volcanic and other intrusive, possible dyke of slide mt. volcanics, no assay
90 - 100	Same as above, more limonite on fractures and blebs and blotches of same, highly altered and silicified, no assay sample
100 - 110	Same as above, up to 35% milky quartz, no metal in quartz, apparently barren quartz vein swarm

Depth (ft)	Description
110 - 120	Same as above, very little quartz, highly altered and silicified, no min. evident or no metals, iron oxide stain as before, no assay saple
120 - 130	Light grey to brown silicified grit altered with oxide stain, but no pyrite, some carbonate on thin surface of breaks or fractures, abundant limonite blebs and patches. Some sericite? Could be highly altered intrusive rocks of slide mt. series, luberite, no assay sample
130 - 140	Same as above with limonite stain, some milky quartz, no visible pyrite, probably highly altered and silicified grit of the Cariboo series, some carbonate, no sample for assay
	T.D. 140 ft

# LOG OF REVERSE CIRCULATION HOLE #5 RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	Vertical
Date	:	June 10, 1991
Depth	:	140 ft (42.7 m)

Depth	Description
(ft)	
0 - 20	Placer gold tailing rocks, soil, clay, sand
20 - 30	Weathered oxidized rock fragments of quartz, grit and phyllite?, probably bedrock weathered
30 - 40	Light grey fragments of quartzite and phyllite, with rouded edges contaminated, no sample assay
40 - 50	Light grey, broken grit quartzite, may be some type of volcanic rocks, no metal min., no sample for assay
50 - 60	Larger fragments of light grey quartzitic rock or silicified, probably is part of slide mt.volcanic intrusive, no assay sample
60 - 70	Light grey high silica rock, some type of volcanic rock or intrusive, no metal content, isolated pyrite, no assay sample
70 - 80	Light grey silicified rock - volcanic, some pyrite, local oxidation, minor pyrite, no assay sample
80 - 90	Medium grey angular fragments of possible quartz intrusive rock, minor metal content, no assay sample
90 - 100	Medium to dark grey crystalline rock, probably intrusive, minor metal min., no assay sample
100 - 110	Light grey platy quartz rock, some pyrite min., bettr than before, no assay sample
110 - 120	Same as above, less metal min., no assay sample
120 - 130	Same as above, much more pyrite and other metals (approx), Geochem Analysis Sample #13

Depth	Description
(ft)	

130 - 140
 Dark grey silicified rock similar to phyllite, lithology changed at
 110 - 120 with more metal content. Hole had to be stopped because of water projected depth 250-300 feet, depth to fault on VLF-EM survey, some carbonate, some areas strong action 10% HCL. Appears to have substantial grey limestone, possibly Cunningham limestone. Hole in a fault zone at bottom. Large rock fragment. Stuck in hammer will be cut for thin section. Hole should be deepend if possible. Large rock fragment plugged hammer so must be near bottom.

T.D. 140 ft - too much water and pressure

- 2 -

#### LOG OF REVERSE CIRCULATION HOLE #6 RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	Vertical
Date	:	June 10, 1991
Depth	:	120 ft (36.6 m)

Depth	Description
(ft)	
0 - 5	Soil - overburden
5 - 10	Light to medium grey phyllite and quartzite with some quartz and pyrite min., very min., highly silicified, no sample assay
10 - 20	Light to dark grey phyllite and/or argillite, some quartz and pyrite min., no assay sample
20 - 30	Light to medium grey quartz phyllite, very little quartz and pyrite min., no assay saple
30 - 40	Same as above, little or no quartz and pyrite mineralization, possible quartz porphy silicified, no carbonate, no assay sample
40 - 50	Medium to dark grey quartz, phyllite, very little mineralization of quartz and pyrite, no assay sample
50 - 60	Same as above, silicified, no alterations or mineralization, no assay sample
60 - 70	Same as above, but darker grey, very little or no pyrite, quartz min., no assay sample
70 - 80	Medium grey quartz phyllite or argillite, no alteration or min., silicification, no assay sample
80 - 90	Same as above, more quartz min., no pyrite min., carbonate on surface only, no sample assay
90 - 100	Same as above, less quartz, no pyrite or alteration or mineralization, no assays
100 - 120	Medium to dark grey phyllite, some quartz mineralization, no alteration or metal min.
120 - 130	Dark grey quartz phyllite, no alteration or min., no metal min., no assay sample
	T.D. 130 ft

## LOG OF REVERSE CIRCULATION HOLE #7 RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	-60°, \$75W
Date	:	June 11, 1991
Depth	:	220 ft (67.1 m)

Logged June 17-23, 1991 by Wm. Howard Myers, P.Eng.

Depth (ft)	Description
0 - 12	Soil broken rock overburden
12 - 20	Light grey to medium grey phyllite or argillite, some quartz and pyrite min., Some leaching, no assay sample
20 - 30	Same as above, minor quartz and pyrite min., no assay sample
30 - 40	Black phyllite or argillite, very platy, very little quartz or pyrite min., no assay sample
40 - 50	Same as above, some quartz and pyrite min., no assay sample
50 - 60	Same as above, more pyrite min., some leaching and alterations, no sample assay
60 - 70	Same as above, more fine gr. pyrite, more alteration and mineralization, no sample assay
70 - 80	Same as above, larger pyrite grains, more alteration and mineralization, no assay sample
80 - 90	Light to dark grey argillite, some leaching, larger pyrite cubes, little or no quartz min., no assay sample
90 - 100	Dark grey to black quartz phyllite, some carbonate in quartz veins, more pyrite, quartz min., numerous small pieces of quartz with pyrite and some carbonate area of pyrite, poor, Sample for Assay, Au-Ag, #9
100 - 110	Black phyllite or argillite, some quartz and pyrite mineralizatiopn, massive pyrite, some cubes, no samplel for assay, #15
110 - 120	Same as above, less pyrite, four larger pieces of quartz vein with pyrite, no assay sample

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Depth	Description
(ft)	
120 - 130	Same as abovae, more pyrite and quartz min., similar to Sample #9 for assay, no assay sample
130 - 140	Dark grey to black argillite or phyllite, free pyrite, not much quartz min., similar to #9 Sample less quartz, no assay sample
140 - 150	Same as above, pyrite in cleavage of phyllite and in quartz veins, minor alteration
150 - 160	Same as above, more quartz and pyrite min., more alteration and leaching pyrite in phyllite fractures and cleavage as well as quartz, similar to Sample #9 for assay (80%), #16
160 - 170	Same as above, less alteration, 80% of pyrite in Sample #9, no assay sample
170 - 180	Medium grey to black argillite, more fine grained pyrite, similar to Sample #9 assay, no assay sample
180 - 190	Same as above, more alteration, more pyrite and quartz, Assay Sample #10
190 - 200	Same as above, larger pieces of phyllite or argillite quartz, pyrite 85% of Sample #10 for assay, Stage Assay Based on #10, Assay Sample #14
200 - 210	Same as above, more leaching 80% of pyrite in Sample #10, Assay Sample #11
210 - 220	Same as above, some pyrite and quartz, smaller pieces of quartz and pyrite, less pyrite in phyllite or argillite, pyrite-quartz min. 75% of #11

T.D.

## LOG OF REVERSE CIRCULATION HOLE #8 RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	-60°, \$75W
Date	:	June 11, 1991
Depth	:	100 ft (30.5 m)

Depth (ft)	Description
10 - 20	Dark grey to black phyllite or argillite, fracturing with large pieces of argillite, very little or no quartz and pyrite min., some oxidation, no assay sample
20 - 30	Same as above, possible graphite along cleavage, small cubes of pyrite and quartz and pyrite on fractures, no assay sample
30 - 40	Same as above, more platy, some fracturing, no assay sample
40 - 50	Same as above, some larger pieces and fracturing, very little pyrite min., no assay sample
50 - 60	Same as above, more pyrite along cleavage and fractures, no calcareous deposits, some leached fragments, no assay sample
60 - 70	Same as above, some oxidation of pyrite, less pyrite, no assay sample
70 - 80	Same as above, very thin quartz veins, some pyrite, very little quartz min., no assay sample
80 - 90	Exactly some phyllite or argillite, abundant thin plates, some leaching along plates, some pyrite mineralization along fractures or cleavage, little or no quartz, no assay sample
90 - 100	Black argillite or phyllite as above, slightly more pyrite, no alteration, very weak min., no assay sample
	T.D. 100 ft - no samples taken for assay on entire 100 ft

# LOG OF REVERSE CIRCULATION HOLE #9 RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	-60° West
Date	:	June 12, 1991
Depth	:	100 ft (30.5 m)

Depth (ft)	Description
0 - 40	Surface gravel, clay and rocks, some road fill
40 - 50	Medium grey quartzose rocks, possibly volcanics of slide mt. series or a quartz porphyry, some pyrite and possible other metals, some pyrite cubes 10 mm side, strong HCL action carbonate may be limesonte, Sample Assay #12, Geochem also
50 - 60	Medium to dark grey massive rock, no HCL reaction, no pyrite or quartz min., no assay sample
60 - 70	Same as above, highly silicified rock, no mineralization, no assay sample
70 - 80	Medium to light grey-green quartzose platy rock, no mineralization
80 - 90	Same as above, more dense, no mineralization, no assay sample
90 - 100	Same as above with more quartz and pyrite min., no assay sample
100 - 110	Light grey high silica rock could be quartzite, very little pyrite, or any min., no assay sample
110 - 120	Same as above, little or no min., no assay sample
120 - 130	Same as above, no mineralization, very little pyrite, no assay sample
130 - 140	Medium to dark green grey dense rock, could be member of volcanic slide mt. series, no pyrite, some quartz, no assay sample
140 - 150	Same as above, no min., no assay sample
150 - 160	Same as above, some contamination, no assay sample

Depth (ft)	Description
160 - 170	Same material, no min., some quartz, no min., no assay sample
170 - 180	Same as above, lighter color, more leaching, no min., no assay sample
180 - 190	Darker green grey silica rock volcanic member, no metal, no quartz min., no assay sample
190 - 200	Same dark green grey with lighter leached plates, very dense no mineralization, no assay sample
	T.D. 200 ft

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## LOG OF REVERSE CIRCULATION HOLE #10 RC-P-91

Location:	:	Geological Map of Claims
Dip & Direction	:	Vertical
Date	:	June 11, 1991
Depth	:	70 ft (21.1 m)

Depth (ft)	Description
0 - 10	Placer (unconsolidated) placer tailings and road material, no recov.
10 - 20	Oxidized reddish brown dense rock, few pyrite specks, some sericite mixture, no assay sample
20 - 30	Light grey dense volcanic rocks, no assay sample
30 - 40	Dark grey to black argillite and quartzite fragments, some pyrite in argillite or phyllite, samples are all smashed or crushed and very hard, probably due to glacier movement, some silicification, very dense hard rock, no assay sample
40 - 50	Dark grey to black phyllite, similar to above but not crushed or so hard, but silicified with some pyrite, no assay sample
50 - 60	Light grey leached or bleached argillite or phyllite, some pyrite cubes, no assay sample
60 - 70	Same as above, more massive, less platy, no HCL action, minor pyrite cubes, no assay sample
	T.D. 70 ft

# APPENDIX NO. 5

## TABULATION OF SAME FOR SCREEN SEPARATION

# SAMPLES SELCTED FOR ASSAY AFTER SCREEN SEPARATION

	"A" +12.5 M	Mesh Screen	"B" -12.5 Mesh Screen			
Sample No.	Hole No.	Depth	Mesh			
EML RCS ∦7A	RCH #3	90' - 100'	+12.5			
EML RCS #7B	RCH #3	· 90' - 100'	-12.5			
EML RCS #22A	RCH #1	270' - 280'	+12.5			
EML RCS #22B	RCH #1	270' - 280'	-12.5			
EML RCS #26A	RCH #1	260' - 270'	+12.5			
EML RCS #26B	RCH #1	260' - 270'	-12.5			
EML RCS #30A	RCH <b>#</b> 1	220' - 230'	+12.5			
EML RCS #30B	RCH #1	220' - 230'	-12.5			
EML RCS #31A	RCH #3	80' - 90'	+12.5			
EML RCS #31B	RCH <b>#</b> 3	80' - 90'	-12.5			
EML RCS #33A	RCH <b>#</b> 3	10' - 20'	+12.5			
EML RCS #33B	RCH <b>#</b> 3	10' - 20'	-12.5			

#### +12.5 Mesh and -12.5 Mesh Screen

# APPENDIX NO. 6

#### ASSAYS ON SCREENED SAMPLES



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# **Chemex Labs Ltd.**

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Analytical Chemists \* Geochemists \* Registered Assayers 212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 To: TERCON CONTRACTORS LTD.

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1012 VICTORIA ST. KAMLOOPS, BC V2C 2C4

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Project : BURNS 031086 Comments: CC: W. HOWARD MYERS Page Number :1 Total Pages :1 Certificate Date: 19-AUG-91 Invoice No. :19119796 P.O. Number :NONE

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					CERTIFIC	ATE OF A	NALYSIS	<b>A</b> 91	19796	
SAMPLE DESCRIPTION	PREP CODE	Au oz/T								
EML-RCS 7A EML-RCS 7B EML-RCS 22A EML-RCS 22B EML-RCS 26A	208 234 208 234 208 234 208 234 208 234 208 234	0.002 0.002 < 0.002 < 0.002 0.022								
EML-RCS 26B EML-RCS 30A EML-RCS 30B EML-RCS 31A EML-RCS 31B	208 234 208 234 208 234 208 234 208 234 208 234	<pre>&lt; 0.002 &lt; 0.002 &lt; 0.002 &lt; 0.002 &lt; 0.002 &lt; 0.002</pre>								
EML-RCS 33A EML-RCS 33B	208 234 234	< 0.002 < 0.002	Assa	ур "А" "В"		Sorl Mest Mest		Sopa Dry	rati	

CERTIFICATION:

#### APPENDIX NO. 7

#### BREAKDOWN OF COSTS FOR REVERSE CIRCULATION DRILLING

#### BREAKDOWN OF COSTS FOR THE REVERSE CIRCULATION DRILLING

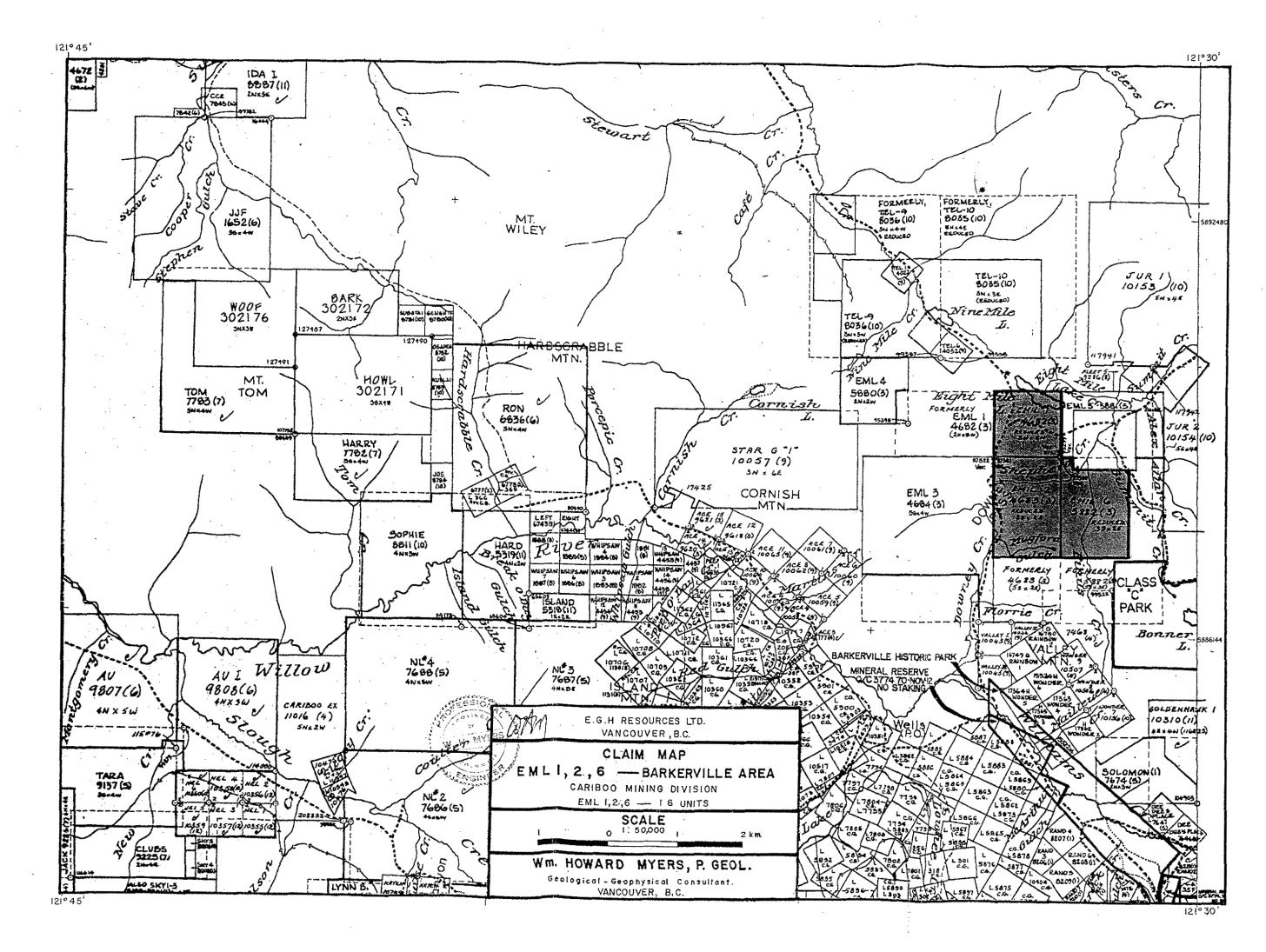
#### ON THE EML CLAIMS

#### June 4th through June 23, 1991

Field drilling June 4th though June 9th and June 12th, 1991 - total of 7 days. Average time in the field including travel time 10 hours per day. Drill rig mounted on tracks, Mobile Oil make drill rig with down hole hammer and button bit. Hole size approximately 5 inches. Drilled 11 holes total 1,720' or 524 metres.

Drill cost including mobilization-demobilization, cyclone for collecting sample and splitter for sample preparation including extra man for above preparation = \$15.00 per foot.

\$15.00 x 1,720 feet	\$25,800.00		
Supervision: Wm. Howard Myers, P.Eng. (B.C.), P.Geol. (Alta), Geological-Geophysical Consultant includes: drill station locations, supervision of sampling and preparation of samples for assay, logging of cuttings in the field and with microscope for report. Supervised hole plugging and clean up of drill sites. Preparation of report and map location			
5 days at \$450/day	2,250.00		
Assaying 25 gold silver samples plus 4 ICP analysis by Kamloops Research and Assay Laboratory Inv #K1043		554.37	
Total costs of drilling and related costs for assessment work	\$28	,604.37	
Total costs per foot including supervision and report and assay	\$	16.63/foot	
Costs per metre	\$	54.36/metre	
16 units @ \$200/unit = \$3,200/year Filing for 5 years only \$3,200 x 5 = 16,000 Filing fee \$16,000 x .05 = \$800 filing fee Reclamation Permit MX-10-66 - Cariboo Mining Division Assessment W Approval Number 1100499-4-5312 "EML Claims", dated June 5, 1991	'ork		



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