

**EVALUATION OF MINERAL POTENTIAL  
FOR  
MOUNT EDZIZA RECREATION AREA**

Submitted to:  
Prince Rupert Interagency Management Committee

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## EXECUTIVE SUMMARY

Government's Protected Areas document released in June 1993 confirms that Recreation Areas, as defined under the Parks Act do not qualify as Protected Areas. The Ministry of Energy Mines and Petroleum Resources is directed to complete an evaluation of mineral potential of Recreation Areas to assist inter-agency management committees with land use planning. Resolution of the status of Mount Edziza Recreation Area is a high priority for EMPR because advanced exploration of the Spectrum gold prospect is very unlikely under current land designation.

Mount Edziza Park and Recreation Area are located in north-central British Columbia. The park was designated in 1972 to recognize Mount Edziza volcano, a major and visually impressive volcanic edifice measuring 20 by 75 kilometers in area. Mount Edziza is a recent event in geological terms and the volcano is superimposed on older and much different geology. These unrelated older rocks include areas of high mineral value. A 1-10 kilometer wide Recreation Area surrounding the Park was also declared in 1972 and was annexed in 1989, except for the Spectrum mineral claims. By doing so, the size of Mount Edziza Park was roughly doubled to 230,000 hectares and the Recreation Area was reduced to 4,000 hectares.

Exploration for gold and copper on the Spectrum mineral claims has been nearly continuous since 1967. The most significant mineral discovery was not made until 1990, demonstrating the need for time and persistence in mineral exploration. Total expenditure for mineral exploration in Mount Edziza Recreation Area exceeds \$4,426,000. This represents an investment in the mineral potential of the Spectrum property. Access to the Spectrum mineral claims is by air, there is no avenue for surface access without crossing a lake or a corner of the Park.

Rocks with high mineral potential in the area surrounding Edziza volcano include Paleozoic schist and Mesozoic volcanic and granitic rocks. The roots of a Mesozoic volcanic island arc were intruded by batholiths, stocks and dikes of the granite suite. These intrusions are widespread and associated with most of the important mineral deposits in the region, including Spectrum. Some of the best mineralized granitic bodies are very small and easily overlooked in regional mapping. Large mineral deposits in the region that are in broadly correlative strata include Galore, Schaft Creek, Eskay and Red Chris deposits, plus many significant exploration projects.

The Spectrum gold deposit is associated with a northerly trending Mesozoic monzonite dike, a variety of granite. Gold occurs primarily in the QC-Porphyry zone near the east margin of the dike, but also in numerous other zones. Geologic reserves are estimated to contain 242,000 ounces of gold, with an in-ground value of \$106 million. All gold zones are open to expansion by continued exploration.

Zones of high and extreme mineral potential are delineated within Mount Edziza Recreation Area that correspond to favourable geology, indicated gold reserves, gold-copper mineral showings and indirect indicators of additional mineralization. A realistic target of continued exploration is a three to four-fold increase in gold reserves at similar grade. If this target were achieved a small to medium-sized underground mining proposal could be put forward to the Mine Development Review Committee. That committee would assess environmental impact and compatibility of the proposed mine with adjacent Mount Edziza Park.

The Ministry of Energy Mines and Petroleum Resources determines that the mineral potential of the Spectrum property is unlikely to be fully defined or developed under the current land designation of Recreation Area. EMPR recommends that Prince Rupert Interagency Management Committee:

- (a) support removal of the Spectrum property from Mount Edziza Recreation Area,
- (b) support minor adjustment of Mount Edziza Park boundary to provide a ground access corridor to the Spectrum property that does not traverse the park.

## **PURPOSE AND SCOPE**

Recreation Areas, as defined under the Parks Act are not recognized as "protected areas" because mineral exploration and development are allowed. As part of implementation of the Protected Areas Strategy for British Columbia the Ministry of Energy Mines and Petroleum Resources is directed to conduct mineral and energy potential evaluations based, where possible, on existing resource inventory data. This report aims to fulfil that directive with respect to Mount Edziza Recreation Area.

The HAWK 1-3, RED DOG 1-4, RED, PINK and CAMP mineral claims comprise the Spectrum property. Mineral exploration at the Spectrum site pre-dates Mount Edziza Park. Mineral exploration companies have been active on the claims, known collectively as the Spectrum property almost continuously since 1967. Previously, Mount Edziza Recreation Area fringed Mount Edziza Provincial Park on its east, south and west sides. Subsequently the Recreation Area was incorporated into the park except for the Spectrum property, apparently without regard for mineral values. Accordingly "Mount Edziza Recreation Area" and "Spectrum property" now are coincident. This report deals with the current Recreation Area but draws on regional geology and mineral deposit information.

Geological data used to prepare this report includes regional mapping by the Geological Survey of Canada (Souther; 1992, 1972) and BC Geological Survey (Logan, Drobe and Elsby, 1992), local mapping by the BC Geological Survey (Panteleyev, 1972) and numerous reports filed with MEMPR by mining companies to fulfill mineral tenure requirements, most notably Hylands (1990) and Norman (1992). Columbia Gold Mines Ltd. also made available a report by Kilby, Casselman and Roberts (1991) that includes geological ore reserve calculations. The writer examined the Spectrum property with George Norman of Columbia Gold Mines on August 7, 1992.

## **LOCATION (refer to Figure 1, in pocket)**

Mount Edziza Park and Recreation Area lie within the Tahltan Highlands between the Stikine and Iskut Rivers in north-central British Columbia. The centre of the area is 100 kilometres southwest of Dease Lake. Mount Edziza Recreation Area covers 4,000 hectares and is located 25 kilometers west of Highway 37 at Kinaskan Lake, on the east side of the park within NTS map sheet 104G. There is no road access to Mount Edziza Park.

Exploration access to the Spectrum property is by air. Ground access for mineral development would require 2 kilometres of road across the margin of Mount Edziza Park because the park boundary extends to the shores of Nuttlude Lake.

## **HISTORY OF MOUNT EDZIZA PARK**

Mount Edziza Park was designated in 1972 to include volcanic features and eruptive products deposited by the Mount Edziza volcano and a Recreation Area was designated for a 1-10 kilometer wide area that fringed the park on its east, south and west sides. The Recreation Area covered a diverse assemblage of older and unrelated metamorphic, igneous and sedimentary rocks. In 1989 the Recreation Area was annexed to Mount Edziza Park, except for the Spectrum mineral tenure. This change in land designation nearly doubled the area of Mount Edziza Park. Spectrum was excluded because Ministry of Parks was reluctant to engage in legal claims for compensation of mineral claims. The Spectrum property comprised the only mineral claims in the Recreation Area at that time.

## MINERAL EXPLORATION HISTORY

Mineral exploration history on the Spectrum property demonstrates two important points that are pertinent to assessment of mineral potential. First, despite a 36 year history of mineral exploration involving nine organizations the area continues to attract the interest of explorationists. Secondly, the most significant mineral discovery was made by Columbia Gold Mines in 1990, the ninth company to conduct work on the Spectrum-Hawk claims. Columbia Gold Mines has expended \$2,256,336 on the Spectrum mineral claims. Other companies have expended \$2,169,914 since 1975 for a total of \$4,426,250. Figures prior to 1975 are unavailable. Exploration history of the Spectrum property is extracted from Norman (1992):

<u>Year</u>	<u>Party</u>	<u>Exploration</u>
1957	Torbit Silver Mines	Surface exploration on Hawk vein
1967	Shawnigan Mining and Smelting Company	Drilling of Hawk vein
1969	Spartan Explorations	Spectrum claims staked
1970	Mitsui Mining and Smelting Company	Geophysical and geochemical surveys
1971-73	Imperial Oil Limited	Geological/geochemical /geophysical surveys 4 drill holes, 463 meters.
1975	Racicot Syndicate	Staked Red Dog claims
1977-79	Consolidated Silver Ridge Mines (Northair Group)	Geological and geochemical surveys Pink, Red and Camp claims staked Airstrip constructed 28 drill holes on Spectrum, 3232 meters
1978-80	Newhawk Mines Ltd (Northair Group)	re-staked Hawk claims Geological and geochemical surveys Access road and 313 meter underground development on Hawk Vein 9 underground drill holes
1984-89	Cominco Ltd	Geological/geochemical /geophysical surveys 10 drill holes on Spectrum, 1199 meters
1987-89	Moongold Resources	Geochemical and geophysical surveys on Hawk claims
1990-92	Columbia Gold Mines	Trenching, rock sampling 50 drill holes, 7066 meters

## **REGIONAL GEOLOGY (refer to Figure 1, in pocket)**

The dominant geologic feature of the region is the Mount Edziza Volcanic Complex, a major late Cenozoic volcano. It comprises a group of overlapping basaltic shields, felsic composite volcanoes, domes and small calderas formed over a period of 7.5 million years on a pre-existing forested upland plateau (Souther, 1992). The youngest volcanic products are less than 2000 years old. Mount Edziza is part of the Stikine Volcanic Belt, a group of volcanic features that extends from Aiyansh in the Coast Mountains north-northwesterly across northern British Columbia into southern Yukon (Miles Canyon lava flow). The Stikine Volcanic Belt is superimposed on, and cuts across pre-existing northwest trending geologic terranes.

The Mount Edziza Volcanic Complex sits on a basement of Stikine Terrane. Stikine Terrane is an elongated belt of Paleozoic and late Mesozoic volcanic, plutonic and sedimentary rocks bounded by the Coast Plutonic Complex to the west and the overlapping Jurassic Bowser Basin sedimentary rocks to the east. Paleozoic (Devonian to Permian) strata underlie the southern and western part of the Mount Edziza complex and comprise massive limestone, fine clastic sediments and mafic to felsic volcanic rocks, all commonly folded and metamorphosed to schist and gneiss.

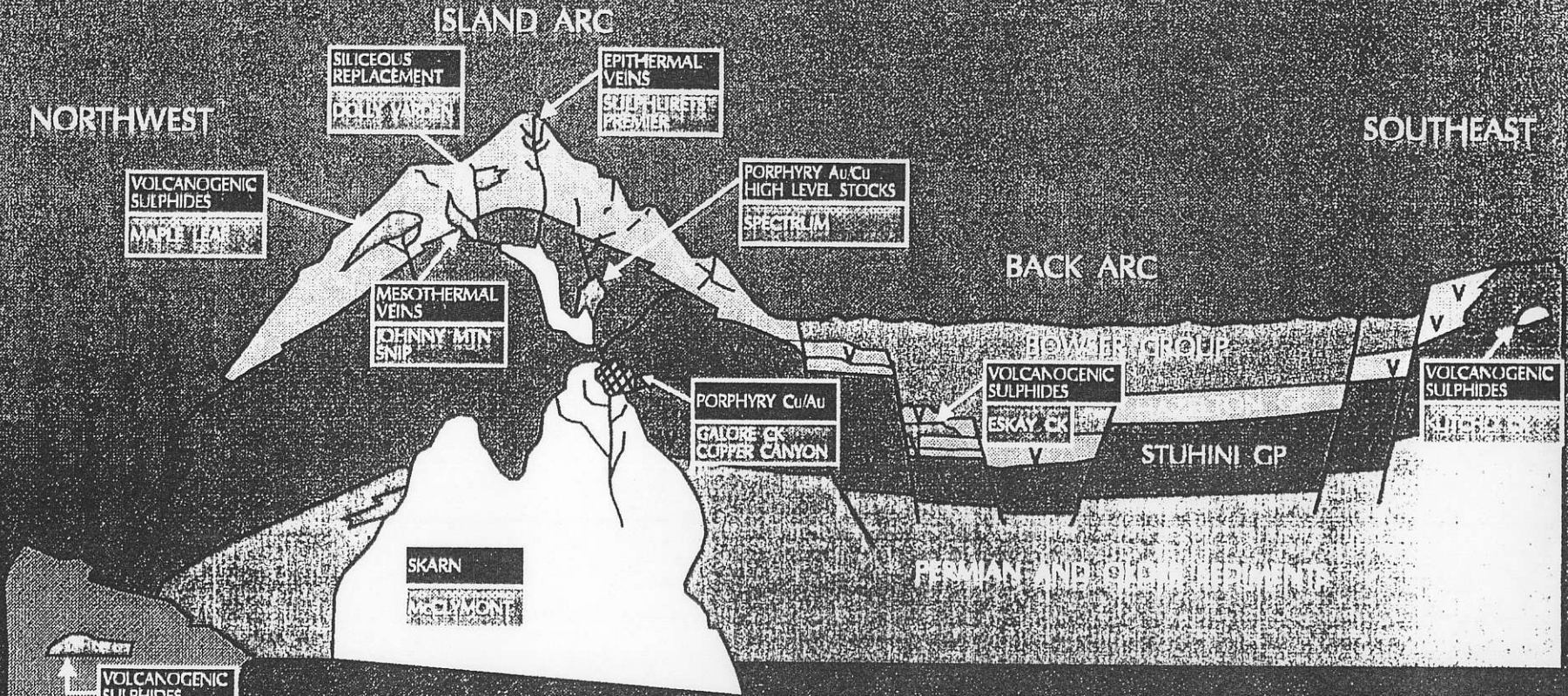
Mesozoic volcanic and sedimentary rocks underlie and surround most of the Mount Edziza complex on its eastern, northern and western sides. Upper Triassic Stuhini Group unconformably overlies the Paleozoic rocks and comprises a thick assemblage of augite andesite, volcanoclastic sediments and limestone (Logan et al, 1992). The Stuhini Group is unconformably overlain by the Jurassic Hazelton Group which consists of a clastic sedimentary sequence, commencing with a basal conglomerate, and succeeded by a bimodal volcanic assemblage of rhyolite and basaltic andesite pillow lava. The Mesozoic volcanic successions formed as oceanic island arcs related to plate subduction. Granodiorite, monzonite and diorite bodies that range from plutons 25 kilometers in size to dikes less than 50 meters wide are coeval with lower Jurassic volcanism and intrude Paleozoic to lower Jurassic strata. These intrusions are widespread and are associated with many of the important mineral deposits in the region. Faulting, as opposed to folding is the predominant structural style in Mesozoic rocks. The valleys of Iskut River, More and Mess Creeks mark the trace of north-south regional faults that bound many of the major geologic units. A conjugate set of northeast and northwest faults are also prominent. Some north and northeast faults have controlled emplacement of intrusive rocks and related mineralization.

Upper Jurassic clastic sediments of the Bowser Group constitute a back-arc basin assemblage that underlies a vast area east of the Iskut River. A tongue of these strata, interpreted to be a fluvial to deltaic facies, extends westward across Klastline Plateau south of Spectrum and beneath the Mount Edziza volcanic complex (Souther, 1992). Continental sedimentary rocks of the Cretaceous Sustut Group are preserved locally in Stikine region.

## **REGIONAL PERSPECTIVE OF MINERAL DEPOSITS**

The geologic environment for many of the important mineral deposits in the region can be expressed in a schematic geologic model of the Mesozoic volcanic island arc (Figure 2). Skarn deposits form where large Mesozoic plutons are emplaced at deep crustal levels. Porphyry copper deposits form near the top and in dike offshoots of these plutons. Faults and fractures above intrusions may extend to surface through the overlying volcanic-sedimentary pile and provide conduits for both volcanic eruptions and mineral fluids, which form vein and exhalative deposits.

# IDEALIZED MODEL FOR FORMATION OF MINERAL DEPOSITS STIKINE REGION NORTHWESTERN B.C.



UPPER TRIASIC - JURASSIC AGE  
VOLCANISM AND MINERALIZATION

ROBERTS/BROCK

Shaft Creek and Galore are immense copper and copper-gold vein stockwork ("porphyry") deposits with proven reserves located respectively 8 kilometers west and 40 kilometers southwest of Mount Edziza Park. The smaller but geologically similar Red-Chris deposit lies 30 kilometers east of Spectrum. These three major mineral properties have good likelihood of future mine development, pending better infrastructure. Ball Creek, another copper-gold porphyry prospect is 7 kilometers east of the southeast corner of Mount Edziza Park and was explored by drilling during August-September 1993. Copper-gold mineralization at Ball Creek and at Spectrum are related to a 80 kilometer long belt of monzonite dikes along the east margin of Mount Edziza Park. The Spectrum property contains gold zones in addition to copper-gold porphyry mineralization. All these mineral deposits are genetically related to Mesozoic intrusions, commonly small dikes, that represent the roots of volcanic centres. Because these small plutons are widespread and may be missed by regional mapping, detailed assessment of mineral potential is inexact.

Jurassic felsic volcanic centres are important sites for vein and exhalative gold-silver deposits. Important examples of this type of mineralization are the Bam and GOZ/RDN deposits located 8 kilometers and 30 kilometers respectively south of Mt. Edziza Park, and the Eskay deposit 45 kilometers further south. The Spectrum deposit has some features of high level gold vein deposits.

Polymetallic (copper, zinc, silver, gold) mineralization is associated with Paleozoic felsic volcanic rocks 25 kilometers south of Mount Edziza Park (Foremore property). It is a volcanogenic massive sulphide, a type of mineral deposit that formed on the ocean floor near a volcanic centre. This type of occurrence has excellent potential to develop mineable deposits, and accordingly Paleozoic felsic volcanic sequences are highly prospective.

### **SPECTRUM PROPERTY GEOLOGY (refer to Figure 3)**

The Spectrum Property is centred on a conspicuous 2 by 4 kilometer colour anomaly that is partially covered by Pleistocene Edziza basalt (photo 1). The colour anomaly is caused by alteration and pyritization of volcanic rocks which in turn is related to a buried intrusive complex represented at surface by a north-south elongate monzonite body.

The monzonite is emplaced into a succession of fine to coarse grained felsic to intermediate pyroclastics and flows with minor sedimentary interbeds that belong to the Upper Triassic Stuhini Group. Panteleyev (1972) subdivided the Stuhini Group rocks at Spectrum into four units. The lowermost unit comprises conglomerate, greywacke, siltstone and minor amygdaloidal basalt. This unit passes upward into a 300 meter thick succession of shale and siltstone with interspersed limestone (containing shell and crinoid fragments) and thin chert beds. A volcanic sequence of intermediate to felsic, fine to coarse crystal-lithic tuffs and derived epiclastic rocks overlies the shale-siltstone sequence. The highest unit is massive porphyritic to microporphyritic andesite that unconformably overlies the lower units. Stuhini strata trend northwest to northeast and dip moderate to steeply. The volcanic pyroclastic unit predominates near the monzonite and is variably silicified, K-feldspar altered or converted to a dense biotite hornfels (Hylands, 1990).

The monzonite is mapped as an irregular north-south trending dike up to 100 meters wide and traced over 1500 meters along strike. The rock is pink to grey, equigranular to porphyritic with approximately 60% plagioclase feldspar, 20% K-feldspar, 5-10% quartz, 6% biotite and hornblende, 2% accessory minerals and 2% pyrite with minor chalcopyrite. The dike has a steep westward dip, a concave eastern contact, and is mineralized in zones of structural weakness. To the west, the main dike is flanked by a swarm of subsidiary dikes. Several other monzonite dikes occur but have not been delineated at Spectrum.





Photo 1. Looking north from the QC-Porphyry Zone over the Spectrum colour anomaly where it is exposed by Hawk Creek. Note the flat-lying Edziza basalt flows on the skyline that cap the altered and mineralized Mesozoic rocks.



Photo 2. George Norman, Columbia Gold Mines' geologist checks for gold in a trench in the 500 Colour Zone.

The alteration zone in intermediate to felsic volcanic rocks grades from potassic in the central core to propylitic in the periphery. The potassic zone measures one kilometer square and is partially covered by younger basalt cover. The alteration assemblages are similar to zones that occur in the uppermost portion of a copper system and initial interest in Spectrum was sparked by porphyry copper style mineralization. Weathering patterns of potassic and propylitic alteration are distinct. Propylitic altered volcanics weather to a dark orange-red due to the mineral assemblage of pyrite, minor pyrrhotite, chlorite and epidote. This contrasts with the bright yellow-orange colour (photo 2) produced by the quartz, sericite, K-feldspar and pyrite assemblage associated with potassic alteration (Kilby et al, 1991).

## SPECTRUM MINERAL DEPOSITS

Three styles of mineralization are identified at Spectrum. Broad zones of porphyry-style, disseminated and fracture controlled pyrite and chalcopyrite occur in potassic to propylitic altered volcanic and intrusive rocks (photo 3). Best grades are 0.22% Cu and 3.4 g/T Au over 54 meters. The second mineralizing event is most significant for gold. Native gold, arsenopyrite, scheelite and sphalerite accompany silicification in structurally controlled zones primarily on the east margin of the monzonite (photo 4). Calc-silicate skarn is the third style of mineralization. Pyrite, pyrrhotite, variable magnetite, arsenopyrite and chalcopyrite are associated with rare visible gold. A total of 101 core holes have been drilled to explore the property. The core is stored on the claims.

A total of 2,718 grid-controlled soil samples have been collected and analyzed from Spectrum by Cominco, Consolidated Silver Ridge, Moongold Resources and Columbia Gold Mines. Anomalous metal content in soils is attributable to mineralized bedrock. The QC and Porphyry zones correspond to an area 700 meters long by 150 meters wide containing greater than 500 ppm copper-in-soil. Copper values above 100 ppm are anomalous. Incompletely defined copper soil anomalies extend beyond the claim boundary to the north and south. Gold values greater than 60 ppb are anomalous. Although less widespread than copper, high gold-in-soil extends from the Edziza basalt in the east, over the known mineralized zones and is open to the north. The incompletely defined copper and gold soil anomalies are unexplained, and likely are derived from undiscovered mineralization. In 1991 Columbia Gold Mines discovered new mineral occurrences, the East Creek and Nose showings, by prospecting soil anomalies.

**QC and Porphyry Zones** are effectively one zone that is comprised of four 6-meter wide, vertically dipping brittle fracture and vein zones (see Figure 4). The zone parallels the monzonite dike but lies 100 meters east of it. The four mineralized structures occur over a 50-80 meter width in silicified volcanic rocks and have been traced 1,000 meters along strike and 250 meters vertically. Geologic reserves using a 5 gm/tonne gold cut-off are identified for 700 meters of the 1,020 meter length of the zone. Northwards, the QC-Porphyry zone appears to terminate abruptly. The zone is thought to be displaced by a northeast fault, trace of the offset continuation is marked by soil gold anomalies.

The **500 Colour Zone** is a northwesterly splay of the QC-Porphyry Zone and is related to a swarm of narrow monzonite dikes near the west contact of the main dike. It has been drilled over a 250 meter strike length. Gold grade and width are less than the QC-Porphyry zone but geologic reserves are identified to a depth of 150 meters below surface.

Geologic reserves were estimated from drill information by Columbia Gold Mines Ltd (refer to Figures 4-7 from Kilby et al, 1991). Orcan Mineral Associates Ltd were commissioned by Columbia Gold to complete an independent reserve estimation, totals are compared in the following table. Orcan did not construct level plans. Columbia Gold's level plans lend insight into the continuity of gold grade that was not evident to Orcan. Both Orcan and Columbia Gold's calculations used 25 meter influence of drill holes, a 1.5 meter minimum mining and a 5 gram per tonne cut-off grade. Further work including closer spaced drilling, metallurgical testing and allowance for mining dilution would be required to translate the geological reserve into an Underground mining reserve. The Open Pit reserve is based on the alternate operating scenario of lower cost bulk tonnage mining that would recover copper as well as gold.

The in-ground value of the gold reserve is \$105,931,875 (using U.S. \$350 gold and \$0.80 Canadian exchange). In-ground value of the bulk tonnage gold-copper reserve is \$182,222,310, based on copper at \$0.90 U.S. per pound, and gold price and exchange rates as above.

**GEOLOGICAL RESERVES**  
(5.0 gram per tonne cut-off)

<u>ZONE</u>	<u>TONNES</u>	<u>GOLD GRADE(g/t)</u>	<u>CONTAINED GOLD(ozs)</u>
QC Porphyry 500 Colour	355,200 211,400 48,100	13.0 9.6 19.2	147,250 65,530 29,530
<b>TOTAL</b>	<b>614,700</b>	<b>12.34</b>	<b>242,130</b>
ORCAN ASSOCIATES	504,800	9.60	155,500
OPEN PIT RESERVE	9,232,000	1.27 + 0.18% Copper	322,500

The **East Creek Zone** is a 5 meter wide, north trending silicified shear zone discovered in 1991 within propylitic altered Stuhini volcanic rocks. It lies 500 meters east of the exploration adit on the Hawk Vein. Three holes were drilled in 1992 to test gold associated with massive pyrite, arsenopyrite, chalcopyrite and sphalerite in the East Creek zone. Economically significant gold grade has been encountered on surface (38.18 g/t gold over 4.8 meters) and in drilling (34.45 g/t gold over 2.5 meters). The zone has been traced 600 meters, and is open to the north and south with anomalous soils suggestive of greater length.

The Hawk Vein was the target of exploration efforts north of Hawk Creek in 1967-80. Gold in the **Hawk Vein** has been traced over a 200 meter strike by underground development and drilling but high gold values are restricted to narrow widths averaging 0.3 meters.

The 33 Zone, 300 Colour Zone, Boundary Zone, 4440 Zone, Skarn, WC and GR showings are other areas of gold-copper mineralization on the Spectrum property. Little information is available for these areas and it is apparent that exploration to date has been limited.

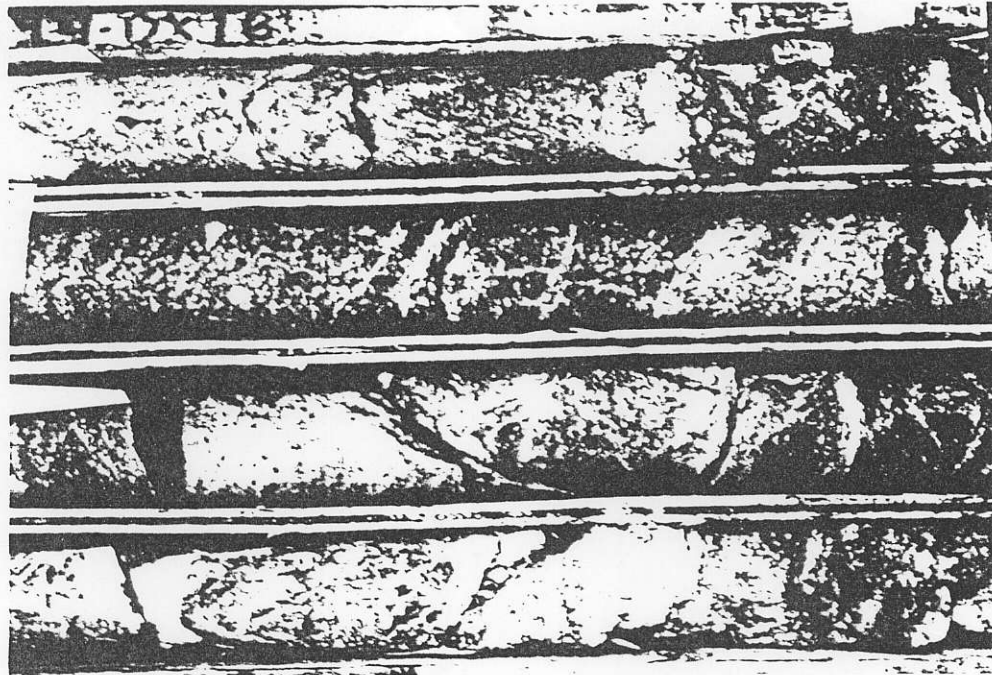


Photo 3. Porphyry-style, disseminated and fracture copper-gold mineralization in potassic altered granodiorite.

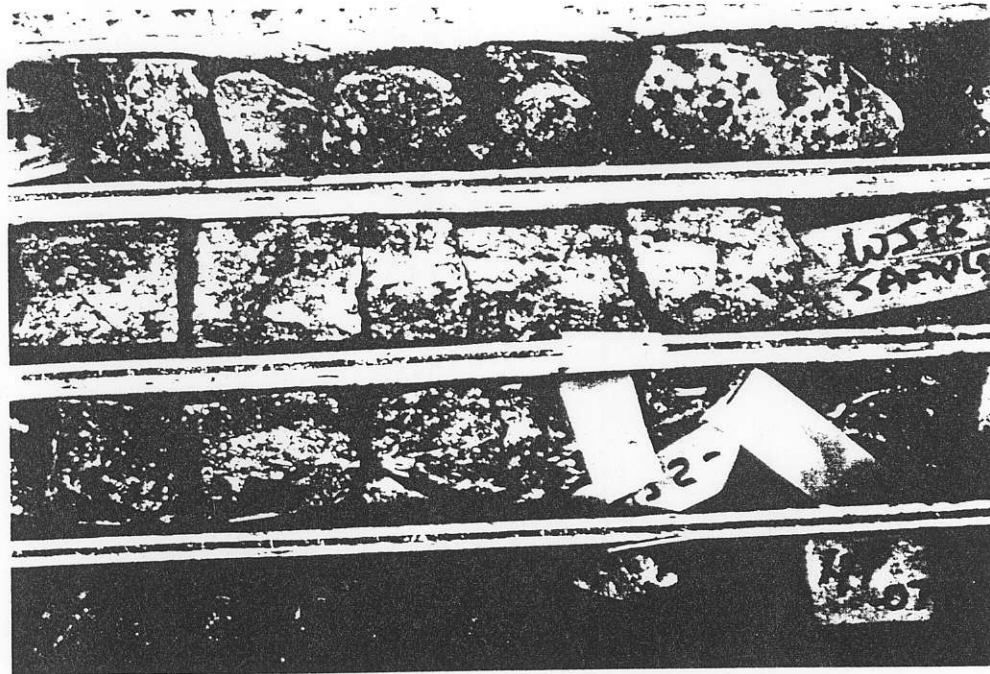
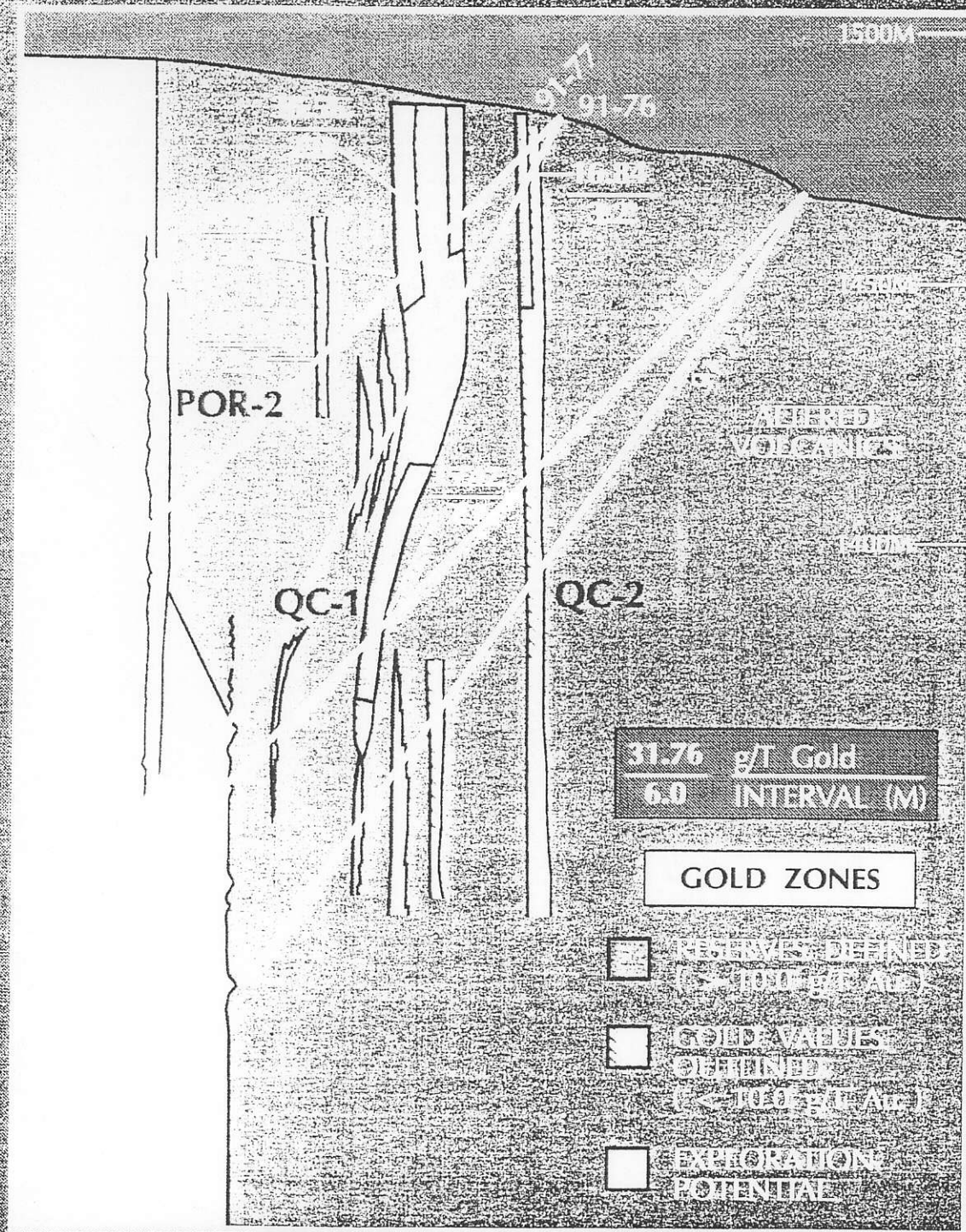


Photo 4. Chalcopyrite-sphalerite vein intersected in drill hole 92-87 that assayed 34.3 grams gold per tonne over 2.6 metres.

# SPECTRUM PROPERTY SECTION 9966N



**COLUMBIA GOLD MINES LTD.  
EURUS RESOURCE CORP.**

## CONCLUSIONS - SPECTRUM MINERAL POTENTIAL (refer to Figure 8)

The Spectrum property and Mount Edziza Recreation Area lie within a major high mineral potential belt on the east margin of Mount Edziza Park. Copper-gold mineralization is related to small north-trending monzonite dikes. Extreme mineral potential within Mount Edziza Recreation Area is delineated on Figure 8. It comprises geological gold reserves, gold showings and indirect evidence of additional mineralization. An area covered by Edziza basalt is included because mineral zones probably extend beneath the cover rock, where ore could be discovered and developed. Remainder of the Mount Edziza Recreation Area (Spectrum property) has high mineral potential because of favourable geology and proximity to significant mineral zones.

Geologic reserves estimated from drilling to date are 614,700 tonnes containing 12.34 grams gold per tonne. No metallurgical testing has been done but gold zone mineralogy suggests that ore might be free-milling, meaning that gold could be recovered easily. Figures 5-7 display an exploration target that could increase the geologic reserves in the QC-Porphyry and 500 Colour zones to 2.1 million tonnes and contain 864,000 ounces of gold. This would probably be an economically viable deposit under current economic conditions and is a realistic target. However, the potential of the Spectrum gold zones is greater yet because they have not been explored extensively along strike or to depth. Soil gold and copper anomalies corroborate the interpretation of a faulted continuation of the principal mineralized zone.

The potential for a small to medium-sized underground gold mine to be developed on the Spectrum property is considered extremely good. Exploration for high-grade gold has been more rewarding than for a bulk tonnage (porphyry type) copper-gold deposit that might constitute an open pit mine. Lesser but significant potential for this second target also exists at Spectrum. Grade of the identified 9.2 million tonne bulk tonnage geologic reserve is marginal under current economic conditions. Also, the zone would have to be at least ten times larger to approach a viable deposit. This may seem a very large hurdle but potential for an economically viable bulk tonnage deposit at Spectrum is considered moderately good because the geologic environment is excellent and there are outstanding deposits in correlative rocks in the region.

The lack of ground access to the Spectrum property without crossing a corner of Mount Edziza Park is certain to cause some discomfort to any mining proponent contemplating mine development. Ministry of Parks would hold strong control, possibly veto power over the project. Development of a copper-gold mine is not possible without ground access because it is not economically viable to air-freight copper concentrate. Development of a fly-in gold mine is possible if gold can be recovered as dore bars, but only in rare situations is it more economic than ground access. Higher mining costs of a fly-in mine dictate higher grade ore cut-off, meaning that metal is left in the ground and maximum benefit of the province's mineral resource is not achieved.

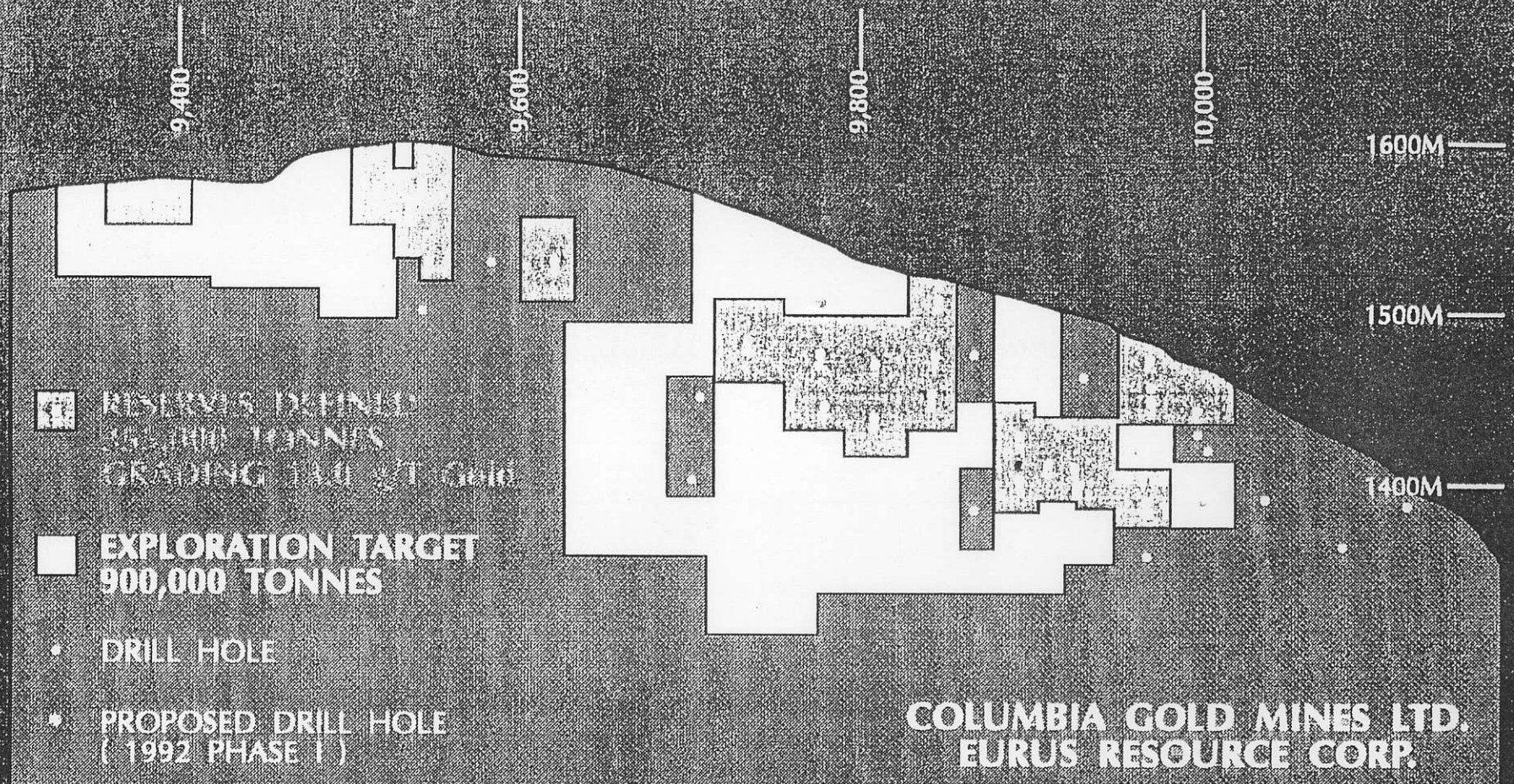
## RECOMMENDATIONS

Mineral potential of Recreation Areas cannot be realized by an arbitrary schedule because of the uncertainty of when a mineral deposit discovery will be made, together with the uncertainty of market conditions that control its development. The current uncertainty of mineral tenure and development rights in British Columbia, combined with the perceived risk of park expansion means that the expenditure of risk capital to conduct mineral exploration in Mount Edziza Recreation Area is strongly discouraged.

The Ministry of Energy Mines and Petroleum Resources seeks an avenue that will encourage mineral exploration and ultimate realization of the extremely high mineral potential of the Spectrum property. To achieve that end the following specific recommendations are made:

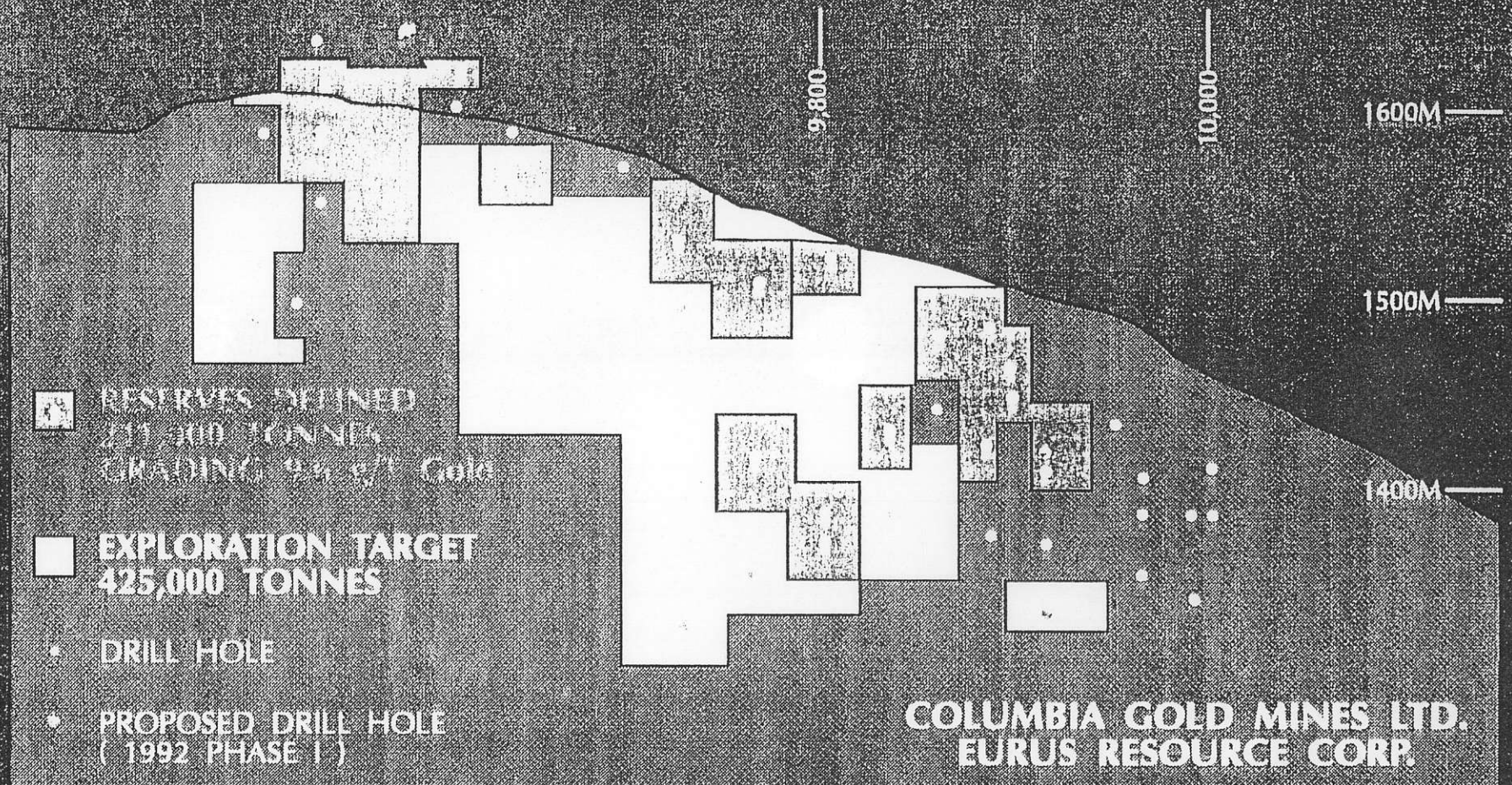
- 1) Remove the Spectrum mineral claims from the Mount Edziza Recreation Area.
- 2) IAMC recognition that the outlook for mine development on the Spectrum property would be improved by a ground access corridor. Minor adjustment to the boundary of Mount Edziza Park would provide greater assurance of approval by regulatory agencies of a mine development access road.

# SPECTRUM PROPERTY LONGITUDINAL SECTION - QC ZONE





# SPECTRUM PROPERTY LONGITUDINAL SECTION - PORPHYRY ZONE



# SPECTRUM PROPERTY LONGITUDINAL SECTION - 500 COLOUR ZONE



RESERVES DEFINED  
48,000 TONNES  
GRADING 19.2 g/T Gold



EXPLORATION TARGET  
225,000 TONNES

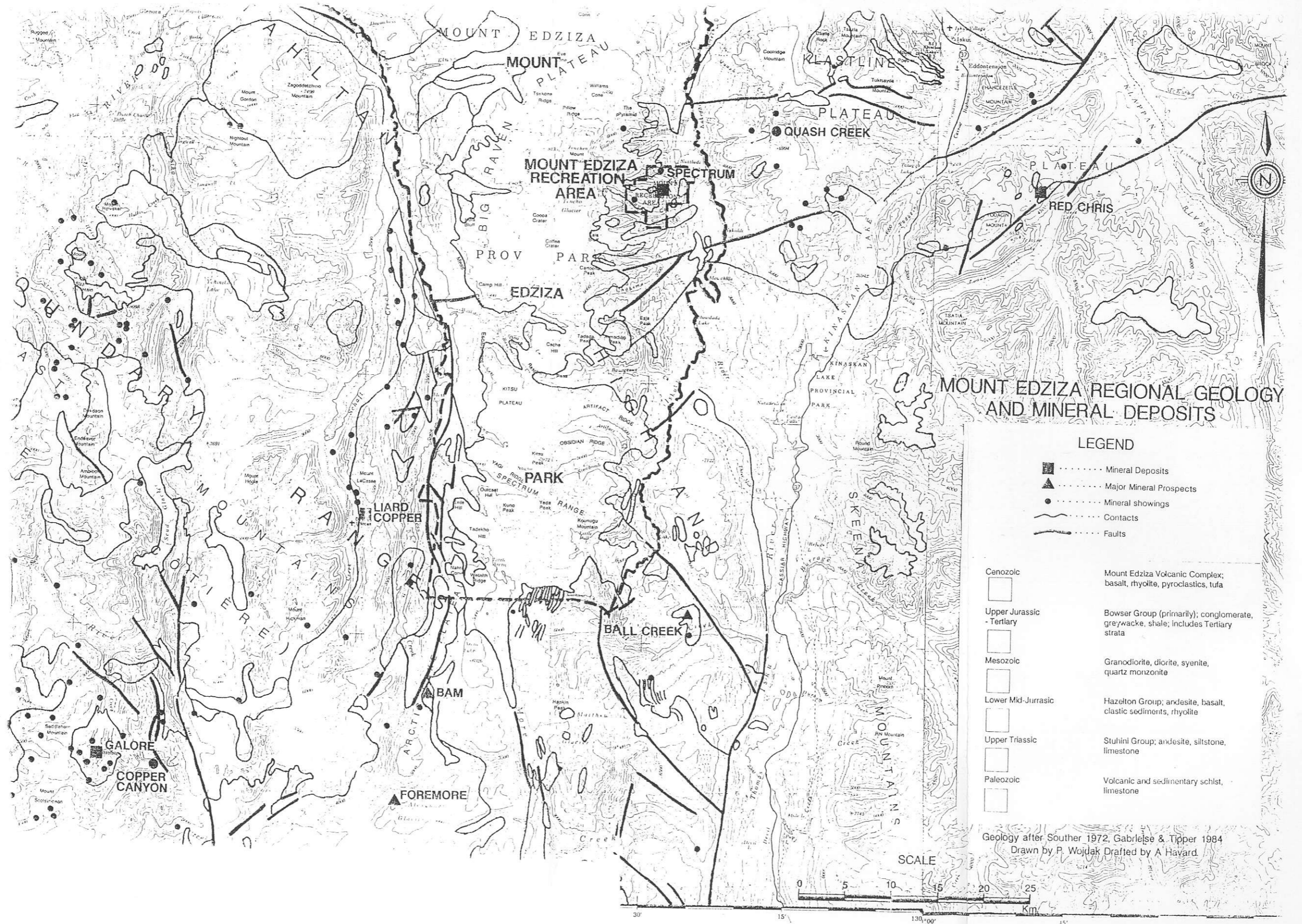
- DRILL HOLE
- PROPOSED DRILL HOLE  
( 1992 PHASE I )



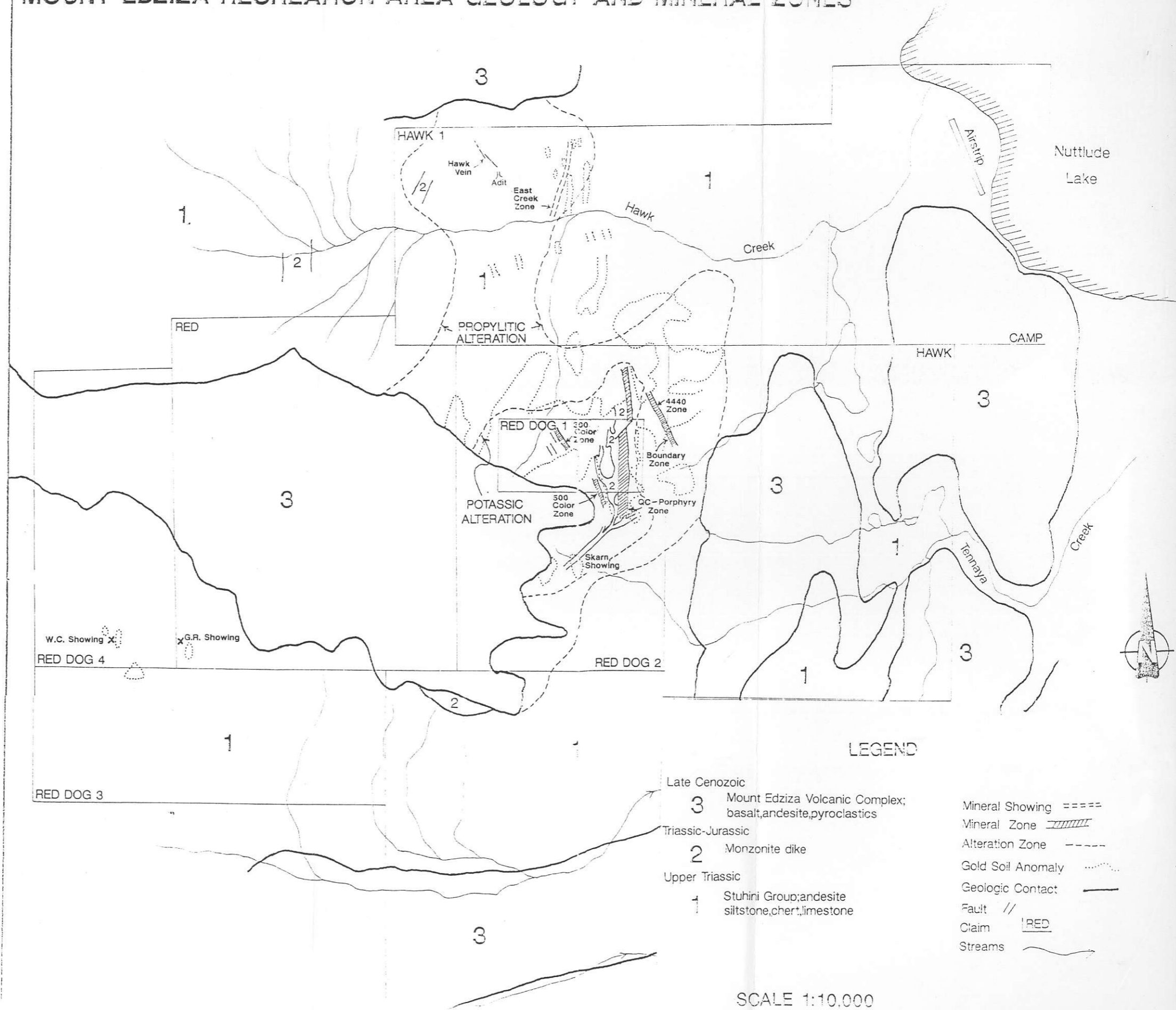
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# MOUNT EDZIZA RECREATION AREA GEOLOGY AND MINERAL ZONES

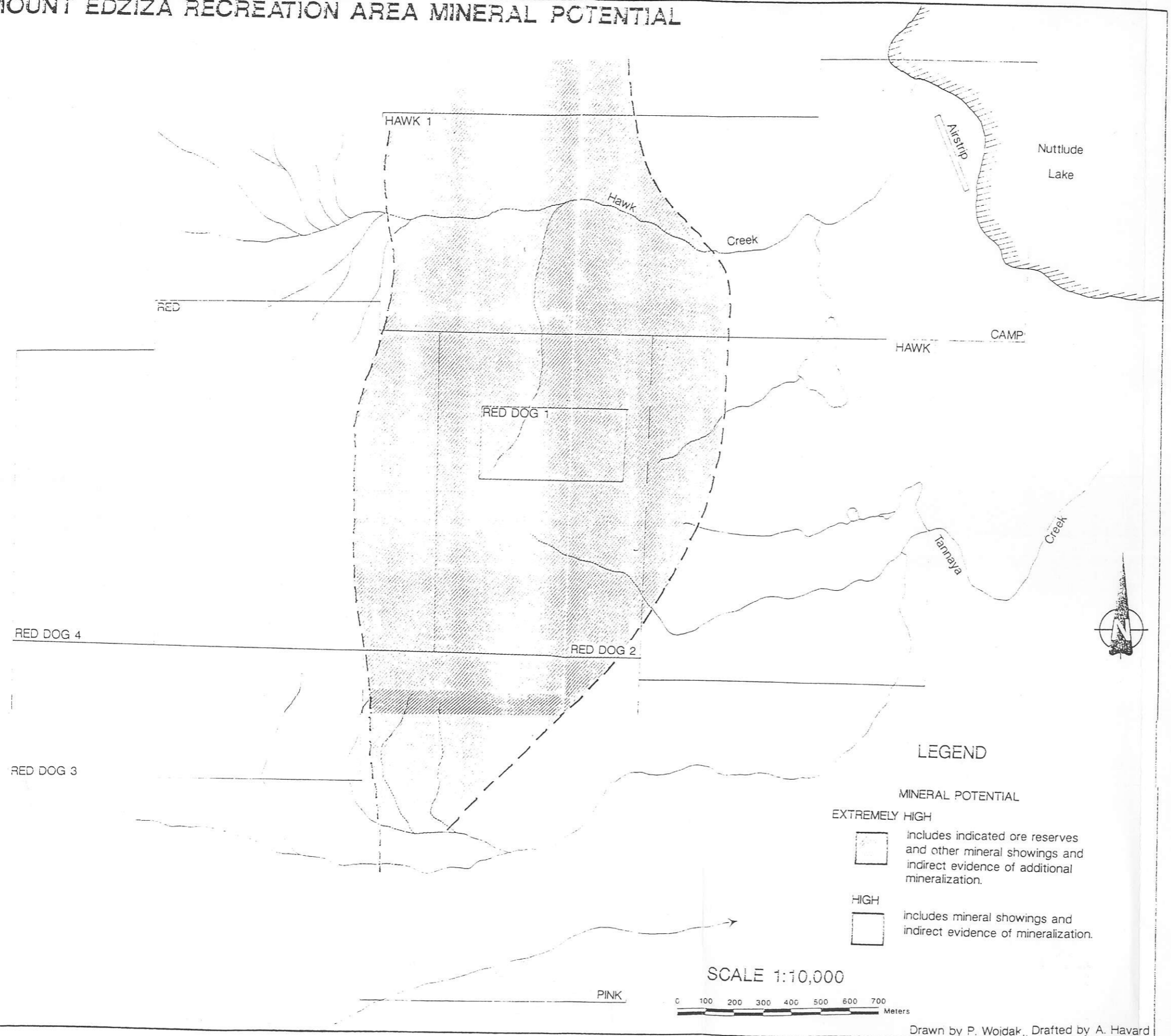


## LEGEND



- Late Cenozoic
  - 3 Mount Edziza Volcanic Complex; basalt, andesite, pyroclastics
- Triassic-Jurassic
  - 2 Monzonite dike
- Upper Triassic
  - 1 Stuhini Group; andesite siltstone, chert, limestone
- Mineral Showing =====
- Mineral Zone //
- Alteration Zone - - - - -
- Gold Soil Anomaly .....
- Geologic Contact ———
- Fault //
- Claim [RED]
- Streams ~~~~~

SCALE 1:10,000

# MOUNT EDZIZA RECREATION AREA MINERAL POTENTIAL



## LEGEND

- MINERAL POTENTIAL
- EXTREMELY HIGH
    -  includes indicated ore reserves and other mineral showings and indirect evidence of additional mineralization.
  - HIGH
    -  includes mineral showings and indirect evidence of mineralization.

SCALE 1:10,000



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