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→ Frasergold  
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## FRASERGOLD PROJECT

- a Joint Venture -

ASARCO INC., and

EUREKA RESOURCES, INC.

### INTRODUCTION

The Frasergold Project is a classic success story of tracing early placer deposits to a bedrock source. At the turn of the century, placer mining on the Horsefly River was thriving. Venturesome miners prospected the headwaters of the Horsefly River, being rewarded in 1901 with the discovery of placer gold on Eureka and Frasergold Creeks.

The placer deposits remained idle until the late 1970's. Clifford E. Gunn, a local prospector who gained recognition in the early discoveries at Gibraltar, demonstrated that gold in both Eureka and Frasergold Creeks had an abrupt upstream termination. In addition, the gold was easily identified in soils alongside either creeks. This initiated the first located mineral claims covering the lode source of gold in 1979.

Under a private funding agreement, the first soil geochemical surveys were completed in 1980 and 1981. The interpreted geochemical patterns recognized the long lineal trend of gold mineralization conformable with the thick package of Mesozoic sediments. The strata bound nature of mineralization precipitated the location of mineral claims covering a 25 kilometre length of the favourable sedimentary horizon.

Eureka Resources, Inc. was incorporated in 1982 to house the property, and sought listing on the Vancouver Stock Exchange in mid 1983. The initial drilling identified coarse, visible gold associated with quartz in 12 of the 14 diamond drill holes completed in 1983 and 1984.

In early 1990, an Option and Joint Venture Agreement was concluded with Asarco Exploration Company of Canada, Limited, a subsidiary of Asarco Inc. Asarco has completed the initial commitment to the venture, having spent \$1.4 million on exploration drilling.

In summary, total exploration expenditures from 1980 - 1990 approximate \$6.07 million, consisting of:

- collection of some 7500 soil samples and 2500 rock chip and channel samples for gold analysis;
- 23,489 metres (191 holes) of drilling;
- 184 metres of underground development, of which 524 tons of ore were mill processed.
- collection of 10 tons of bulk samples for metallurgical tests.

## PROPERTY & LOCAL JN

The property is comprised of 41 mineral claims (362 units), consisting of 8 two-post claims, 7 fractional claims, and 26 modified grid system claims. All claims are registered in the name of Eureka Resources, Inc. and Asarco Exploration Company of Canada, Limited.

The claims are located in the Cariboo Mining Division, British Columbia, approximately 100 kilometres due east of Williams Lake. Road access is possible via a network of all weather gravel logging roads from the settlement of Horsefly to the project campsite - a total distance of 63 kilometres. From the camp, logging roads and 4 wheel drive jeep trails provide road access to most areas of the property.

## GEOLOGY

The Frasergold Property straddles the boundary between two major tectonic belts of the Canadian Cordillera; the Omineca Tectonic Belt to the northeast, and the Quesnel Trough of the Intermontane Belt to the southwest. The McKay River parallels and approximates this major tectonic boundary within the claim area.

Three major rock units comprise the Intermontane Belt within the Frasergold Property.

Pennsylvanian/Permian - Crooked Amphibolite  
Middle-Late Triassic - Quesnel River Group  
Lake Triassic/Jurassic - Takla Group

Economic concentrations of gold have been discovered in two specific geologic environments.

### - Main Zone

Mineralization of the Main Zone and principal geochemical target on the property is confined to a specific lithological unit within the 1500 metre thick sedimentary sequence of the Quesnel River Group. The unit is locally referred to as "knotted phyllite" and is made up of coarse elongated carbonate porphyroblasts in a lustrous, well laminated phyllite groundmass. Locally the knotted phyllite is up to 300 metres thick. It is within the basal 100 metre thickness of the knotted phyllite that mineralization of the Main Zone exists. Bedding attitudes strike 130 degrees, and dip 40 - 45 degrees S.W.

The knotted phyllite has been found by drilling and surface outcrop on the property over a strike length of 8 km. Eight exploration diamond drill holes in the central and northwest portion of the property failed to identify the favourable knotted phyllite unit, suggesting a facies change along the strike of the lithology or a major cross cutting structure. To the southeast, the favourable lithology terminates at the axis of the Eureka Syncline.

The favourable strata occur on the northeast limit of the Eureka Syncline. At least two structures have played a major role in development of gold mineralization, both of which are related to the formation of the syncline.

S<sub>1</sub> is an axial plane schistosity which strikes 130 degrees, dipping 55-60 degrees S.W. In many places, bedding has been transposed to S<sub>1</sub>, and the penetrative schistosity of S<sub>1</sub> has obliterated primary bedding features.

S<sub>2</sub> is a crenulation cleavage developed during the late folding stages of the Eureka Syncline. The strike sub-parallel to S<sub>1</sub> (115-120 degrees) and dips 70-85 degrees S.W. within the drilled and developed area of the Main Zone.

Particulate gold mineralization occurs primarily in quartz segregations such as stringers, veins, boudins, and mullions. Visible gold has been seen in many samples, commonly fine anhedral grains set in quartz often near the margins of veins. Gold smears are found on phyllites in minor fold hinges, leading to the speculation that gold continued to migrate throughout the stages of main phase folding. Gold is often closely associated with coarse grained, creamy white dolomite and siderite within quartz.

Pyrite and pyrrhotite occur in medium to coarse grained clots within veins and along the margins. In many places finer grained sulphides are intercrystalline to the tightly packed carbonate grains.

Quartz originated through secretions or mobilized "sweats" and metamorphic differentiation. The quartz in the metasediments is considered to have a sedimentary origin. Source rocks were probably the Hadrynian and Paleozoic sediments and volcanics of the Omineca Crystalline Belt that lie immediately east of the property.

- Eureka Peak Zone:

The rocks underlying the Eureka Peak Zone are quite different from the Main Zone and belong to the Late Triassic to Early Jurassic Takla Group. These volcanic rocks are a succession of metabasalt, augite porphyry flows, tuffs, and volcanic breccias (Bloodgood, 1987a). Low-grade metamorphism has affected the entire unit, resulting in the growth of chlorite, tremolite-actinolite, and rarely biotite. These rocks have also been folded by the Eureka Syncline and dip at moderate angles to the northwest (Bloodgood, 1987b).

The predominant rock types encountered in drill core are coarse pyroxenite partially replaced by metamorphic tremolite and calcite, coarse amphibolite completely pseudomorphed by an assemblage of tremolite, actinolite, epidote, calcite, and chlorite, and a calcareous meta-tuff.

Mineralization occurs in the meta-tuffs and consists of fine to coarse-grained pyrite and pyrrhotite disseminations, laminations, and clots over a core length of approximately 15m. Laminae and thin beds of fine-grained light limestone, parallel the foliation of the chlorite schist and sulphide laminae, are often found within drill core that showed significant gold values. Locally sulphides comprise half the rock.

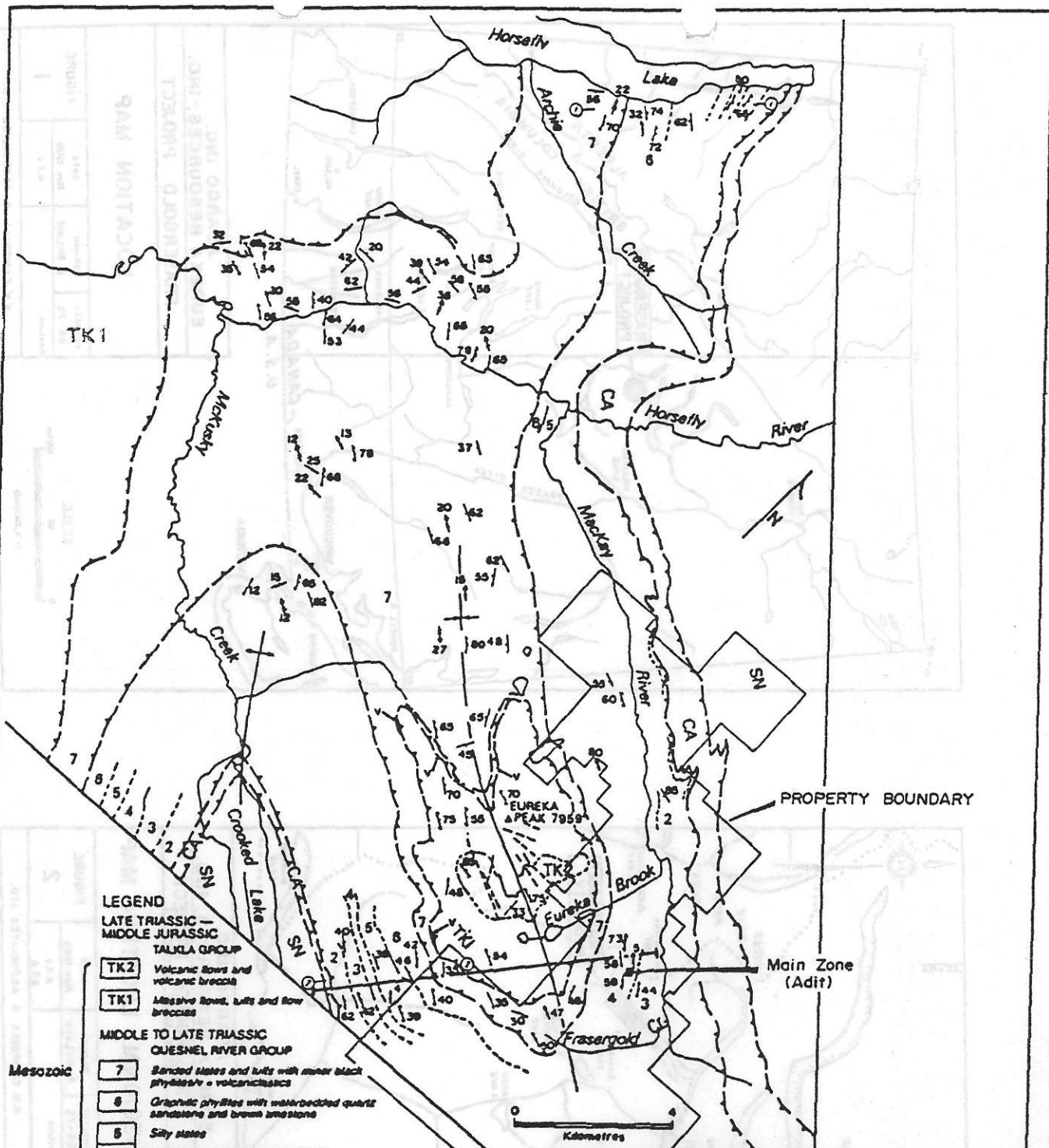
## ECONOMIC POTENTIAL

A three kilometre strike length of the favourable knotted phyllite unit between Frasergold Creek and Eureka Creek has been the subject of most exploration drilling and underground development. It is within this area that drill density is sufficient to provide order of magnitude geological reserve estimates.

Economic concentrations of gold have been found in at least three stratigraphic horizons within the basal 100 metre thickness of the knotted phyllite. The middle horizon has been the subject of most drilling and provides the principal economic target in the area of the adit. The horizons are very continuous along the strike of the deposit, however tend to vary in width erratically from section to section. Within areas of economic interest, the average composited width of mineralization is 18 metres.

Results of all exploration work completed on the property to date are summarized as follows:

- \* The Frasergold Main Zone has a geological reserve base of 13-15 million tons grading .054 oz/TAU per 100 metres of vertical depth over a strike length of 3 kilometres. These reserves can be mined by open-pit mining methods to depths of approximately 100 metres, with W:O ratios ranging 4-7:1.
- \* Additional open-pit mine potential exists over a 2.5 km strike length of unexplored favourable lithology. Further drilling is required to establish reserve potential.
- \* The mineral reserve potential is open at depth and along strike an additional 2.5 to 3.0 km to the southeast. Such reserves would be developed for large scale underground mining potential.
- \* Underground bulk sampling indicates consistent grades of gold over the width of mineralization, and a possible grade improvement of 30% over the average grades of drill and channel samples.
- \* The Eureka Peak Zone offers potential of developing high grade reserves that could be mined by underground mining methods.



**LEGEND**

**LATE TRIASSIC - MIDDLE JURASSIC**

**TALULA GROUP**

**TK2** Volcanic flows and volcanic breccia

**TK1** Massive flows, tuffs and flow breccia

**MIDDLE TO LATE TRIASSIC QUESNEL RIVER GROUP**

**Mesozoic**

**7** Banded slates and tuffs with minor black phyllites - volcaniclastics

**8** Graphic phyllites with waterbedded quartz sandstone and brown sandstone

**5** Silty slates

**4** Laminated, porphyroblastic phyllite

**3** Phyllitic siltstone

**2** Micaceous black phyllite and minor tuffs

**1** Micaceous quartzite

**MISSISSIPPIAN TO EARLY PERMIAN**

**Paleozoic** { **CA** *Crinoid Amphibolites: amphibole - chlorite schist, chlorite - epidote schist*

**MADRYNIAN AND YOUNGER**

**Proterozoic** { **SN** *SNOWSHOE GROUP: quartz-mica schist*

**Early Paleozoic**

(from Bloodgood, 1987)

**ASARCO INC./EUREKA RESOURCES INC.**

**FRASERGOLD PROJECT**

**REGIONAL GEOLOGY**

<b>PROJECT</b> 84-72 C	<b>DRAWN</b>	<b>DATE</b> Nov. 1987	<b>FIGURE</b> <b>8</b>
<b>Revised</b>		<b>N.T.S.</b> 93 A	

**K.V. CAMPBELL & ASSOCIATES LTD.**

