

**1996 Assessment Work Program**

**MAG SURVEY**

**MOUNT BARKER PROJECT  
ACE PROPERTY**

93A/14E, Cariboo Mining Division. Little River Area, BC

Work done on Roar 3 + 5 Placer Claims

owned by

**BARKER MINERALS LIMITED**

**Langley, British Columbia**

by  
**Louis Doyle**  
**May 6, 1997**

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# PLACER REPORT

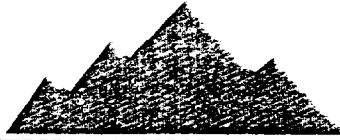
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OFFICE OF THE GOLD COMMISSIONER  
VANCOUVER, BRITISH COLUMBIA

24,988

BARKER



MINERALS LIMITED

SUMMARY AND RESULTS

IN THE 1996 FIELD SEASON, BARKER MINERALS UNDERTOOK A MINI-GRID MAG SURVEY ON ROAR 3 AND ROAR 5 PLACER CLAIMS. THE SURVEY WAS UNDERTAKEN WITH THE INTENTION OF LOCATING BURIED PLACER DEPOSITS, BY IDENTIFYING POSSIBLE BURIED MAGNETIC ANOMALIES.

THE RESULTS OF THE SURVEY OUTLINED TWO LINEAR MAG PARALLELING THE STRATIGRAPHY. THESE MAG HIGHS ARE APPROXIMATELY 100 METRES WIDE AND 400 METRES LONG. FURTHER WORK BY TEST PITS AND/OR BACKHOE TRENCHING TO IDENTIFY THE SOURCE OF THE MAGNETISM IS RECOMMENDED AND ANTICIPATED AS FOLLOW UP.

  
LOUIS E. DOYLE (PROSPECTOR)



# Barker 1997 Snapshot

## History

### Cariboo and Local History

#### History Of Exploration And Mining In The Area ( Salat 07/94 )

Gold was discovered in creek beds in the winter of 1860 near Wells B.C. and placer operation has never really ceased since. Lode gold ( hardrock ) mining started in 1934 at the Cariboo Gold Quartz mine and at Island Mountain. The last year of production was in 1967 and the cumulative gold production equaled 39,281,000 grams ( nearly 1.3 million ounces ). The adjacent Mosquito Creek Mine opened during the 1980 - 1982 period and produced 23,400 ounces of gold. Probably as much gold has been extracted from surrounding river and creek gravels. Interestingly all economically important placer deposits are located northwest of Cariboo Lake and Cariboo River. This situation reflects the early history of discoveries and construction of roads, trails and settlements from Keithley to Wells - Barkerville. All the region between Cariboo Lake and Quesnel Lake remained little explored even since it was, opened by logging operations in recent years. The only reported exploration dates back to the late 1980's when some prospectors found massive sulfide boulders along Frank Creek ( AR # 17696 ); the source of the boulders was not found.

#### Local History ( Lammler '95 )

Other important gold and copper - gold deposits occur near Likely, in this southeastern part of the Cariboo. A new low-grade open-pit Cu-Au deposit in alkalic intrusive breccia on Mount Polley, 9km southwest of Likely, is expected to be put in production soon. Measured reserves there are 49 million tonnes grading 0.38% Cu and 0.54% g/t Au; inferred reserves are 230 million tonnes grading 0.25% Cu and 0.34 g/t Au.

At Spanish Mountain, 13 km southeast of Likely ( 15km east of Mount Polley ), pod-like shoots of mineralization containing coarse gold, pyrite, galena, sphalerite, chalcopyrite and tetrahedrite occur in quartz, ankerite and mariposite gangue. Probable/possible reserves of 890,000 tonnes grading 2.5 g/t Au, have been developed.

During 1938-39, the Cariboo Hudson Mine, 18km northwest of Ace Property, produced 160 kg of gold from 11,800 tonnes of rock ( 14 g/t Au ).

The Bullion Pit, in an old buried river channel, 5km west of Likely, ( 19km down-ice from Spanish Mountain ) was once one of the largest placer gold mines in the world. Hydraulic monitoring and sluicing began there in the 1870's and continued until 1942.

## 1993-1995 Company History

Prospecting - Since discovering the gold at the outlet of the culvert in October, 1993, Louis Doyle has spent most of his time prospecting and working on the property. He devoted the entirety of his time in 1995 to the project, just as he did in 1994, and the bulk of the field work that he did was prospecting for float, often with help from J. Doyle, sometimes with others, sometimes alone, and sometimes returning to areas of interest with others more experienced in exploration, for their advice and guidance. As mentioned, this work was guided by geological speculation regarding topographic aerial-photo lineaments, and suspicion of geological structures along these lineaments. He did a very impressive amount of hard physical work following up hunches. Most of the time, at least in 1995, weather conditions were very inclement.

He did the work by sketching the lineaments on available small scale topographic and forestry maps. The scale of these maps was not suitable for plotting individual boulders, and as most of the early work was done without grid or survey control, he described boulder location by measurements to claim posts, kilometre markers and other topographic features. The total number of boulders found has not been accurately accounted: suffice to say that several hundred had been found. All important looking boulders were labelled with a number indicating date of discovery and individual boulder number. Doyle's "Samples" book is 45 pages long. It contains typewritten cross referencing sample numbers and sample descriptions for more some 690 samples that were gathered during 1995. The remainder of the sample descriptions in this book cover samples gathered in 1993 and 1994.

Selected grab samples were taken from each of the important boulders, bagged, labelled and sent away for 30 elemental ICP analyses, and records of these analyses have been kept in a similar ledger. Doyle's "Assays" book is 84 pages long. It contains analytical report sheets from Acme Analytical Laboratories, Vancouver; Eco-Tech Laboratories, Kamloops; and Brenda Process Technology, Kelowna.

Through Barker Minerals Ltd., Doyle commissioned four ore petrographic studies on the ore minerals in these selected specimens; two by Andrzej Skupinski, PhD, Calgary; and two by John G. Payne, PhD, Vancouver Petrographics. The former two comprise 29 pages, the latter comprise 38.

Also, in the course of his prospecting work, Doyle established a line of communications for Barker Minerals Ltd. with several senior government geologists to ensure himself, and his investors, that the field work he was directing was on the right side of the track, or in other words, was technically advisable, justified and warranted under the circumstances. His "Correspondence" ledger is 35 pages long; it contains letters from Bruce Ballantyne, PhD, Ottawa; Don Harris, PhD, Ottawa; Vic Preto, PhD, Victoria; and Tom Shroeter, Senior BC Govt Geologist, Vancouver. Subject matter ranges from similarities of Doyle's

specimens to Bessemer-type massive sulphides; microprobe analyses of minerals unidentified during previous ore petrography work by Payne and Skupinski; polished section identification of telluride minerals; neutron activation analyses by Activation Laboratories Ltd., Ancaster, Ontario; enzyme leach tests for liberation of metals from Ace Property soil samples, again by Activation Laboratories Ltd.; micrographic photographs of ore elements from selected rock specimens.

The above data are included here to indicate to the reader that Louis Doyle and the company of which he is president, although both being relatively new to the mining and mineral exploration world, are far more thorough in their approach to prospecting than most prospectors, and of most other junior companies. Actually, as the data above indicates, Doyle's approach to exploration is far more seasoned than that of many seasoned mineral explorers.

\* MAGNIFIED



ORIGINAL DISCOVERY GOLD

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## **Geography and Physiography**

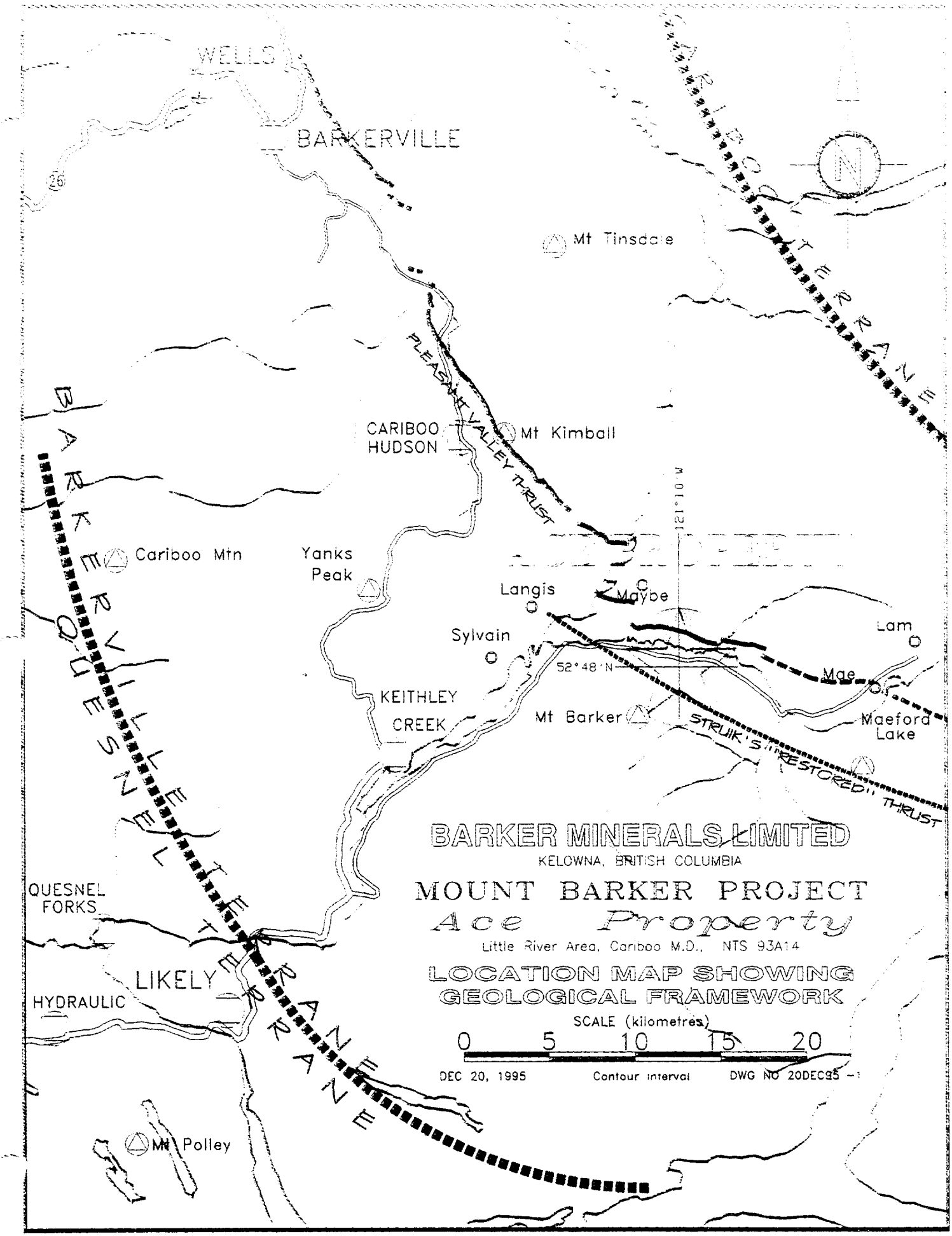
The Ace Property is in the central part of the rounded mountains that are transitional between rolling Fraser Plateau and rugged Cariboo Mountains. Drainage is west via Little River to Cariboo and Quesnel Rivers, and then south via Fraser River. Pleistocene ice that accumulated in Cariboo Mountains flowed away to the west and northwest, carving "U" shaped valleys to the general elevation of Fraser Plateau, which is about 1000m. Summits smoothed by this ice exceed elevations of 2000m, but the alternate freezing and thawing of cornice melt-water has scalloped cirques into the north and northeast sides of these mountains. Peaks further east in the Cariboo Mountains are higher and much more rugged, rising 2600m. Quesnel Lake - one of the deepest in the province - is a long, forked, fjord-like lake with outlet at 725m: it is the dominant scenic and topographic feature in the region.



## **Location and Access**

The Ace Property is located 95km northeast of Williams Lake, the nearest supply center, or alternatively, 34km northeast of Likely, the nearest settlement. Williams Lake is a small interior city on Highway 97, BC Railway, major hydro-electric power, and has a modern airport. The settlement of Likely, scattered around at the outlet of Quesnel Lake, is about one-half hour by gravel logging road from the property. It has a grocery store, gas station, motel, restaurant and a few hundred residents. Highway 97 turnoff for Likely is at 150 Mile House, near Williams Lake.

Weldwood is actively logging fir, spruce, and pine in the area, principally during winters. Outlines of existing and planned cutblocks in vicinity of Ace Property have been very cooperatively provided by Weldwood.



**BARKER MINERALS LIMITED**

KELOWNA, BRITISH COLUMBIA

**MOUNT BARKER PROJECT**

*Ace Property*

Little River Area, Cariboo M.D., NTS 93A14

**LOCATION MAP SHOWING  
GEOLOGICAL FRAMEWORK**

SCALE (kilometres)



DEC 20, 1995

Contour interval

DWG NO 20DEC95 -1

# Geology

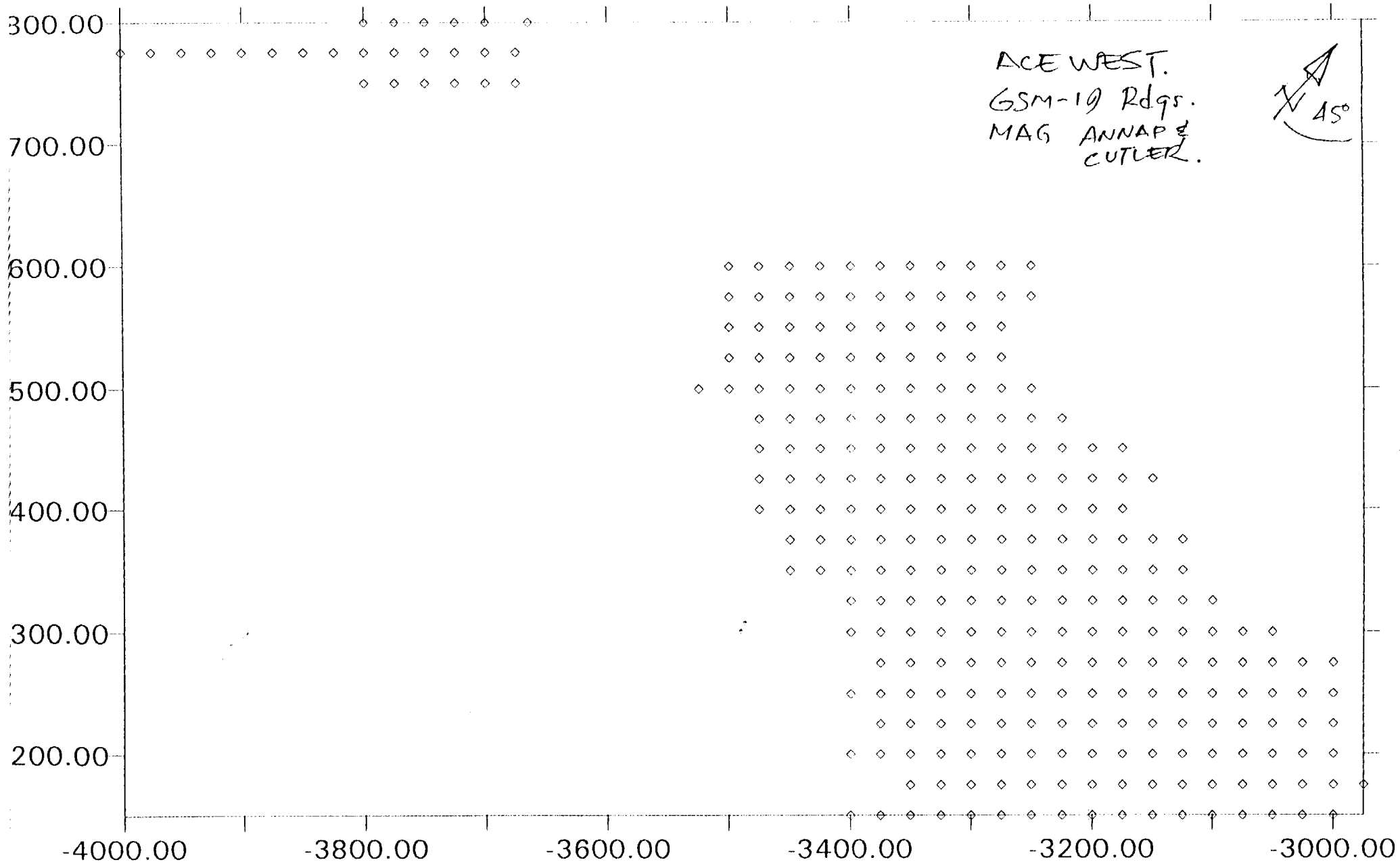
## Regional Geology ( Lammle '95 )

Regionally, bedrock of this portion of Quesnel Highlands consists of two assemblages of marine strata. The eastern assemblage is called Cariboo Terrane; the western, Barkerville Terrane. Each spans the long period of geological time between upper Proterozoic to lower Palaeozoic. The eastern assemblage consists mainly of fine-grained limy and pelitic strata; the other consists mainly of coarser grained quartzitic strata. The two have been shoved together by plate tectonic forces, one assemblage on top of the other, eastern over western, along the Pleasant Valley Thrust Fault. An assortment of foreign, accreted rocks known as Quesnel Terrane lies to the west; it is composed mainly of Triassic volcanics and related sediments. Small masses of granitic textured rocks, ranging through diorite, diabase, monzonite, granodiorite and quartz porphyry, are present.

Tertiary and Recent basaltic volcanic rock have invaded and overlie Barkerville Terrane in southern parts of Quesnel Highlands, near Clearwater Lake in Wells Gray Provincial Park. The peak of Takomkane Mountain, near the site of the former Boss Mountain molybdenum Mine, is made of post-glacial, vesicular olivine basalt. Similar rocks occur near Horsefly, and extensively on the interior Plateau.

The geology of the area is characterized by effects from both compression and extension. Several regional northwest-trending thrust faults characterize the compressional tectonic regime, Barkerville and Quesnel Terranes are in contact along the Eureka Thrust; Cariboo and Barkerville Terranes are in contact along Pleasant Valley Thrust. Yet another terrane, the Slide Mountain Terrane, has been shoved from the west over all of the others, along the flat Pundata Thrust. Similarly, a number of northerly and north-easterly trending, east-dipping normal faults that originated during a late stage of geological uplift, characterize the extensional tectonic regime. A number of normal faults of this set cut the stratigraphy in the old mines at Wells and Barkerville, and are believed to have been economically important, creating dilatant zones that localized ore. Two principal faults of this set, shown on various GSC maps including those in GSC Mem. 421, divide the boulder train into thirds. These two normal faults are referred to herein as GSC-1 and GSC-2 faults. Offset caused by these two faults suggest that the wedge-shaped block of ground between them is stratigraphically uplifted relative to adjoining blocks further to the northwest and further to the southeast.

Barkerville Terrane, underlying the former gold-producing parts of the Cariboo, and the Ace Property, is the one of economic interest. It consists mainly of quartzite, phyllite and schist, with some dolomite, limestone and amphibolite. Smaller amounts of meta-tuff and and meta-diorite occur locally. It had been intensely deformed, isoclinally folded and metamorphosed during an early compressional tectonic regime, and was later uplifted and block faulted. Metamorphic intensity increases with distance to the southeast, ranging from chlorite through garnet to sillimanite mineralogy; the garnet-grade isograd crossing the southeast part of Ace Property, near the center of the boulder train.





# Comparisons and Examples

## Comparisons and Examples( Lammler '95 )

The gold that came from the underground mines at Wells, Barkerville and Cariboo Hudson occurred in two main ways - in pyritic quartz veins, and in pyritic replacement deposits. Generally, the quartz veins were near the contact between rock units known as Baker and Rainbow Members. The Baker Member is described as light-coloured quartzite, phyllite, limestone and mafic volcanic rocks, while the Rainbow Member is described as dark-coloured quartzite and phyllite. The two units probably differed in competency, and if so, would have refracted geological stresses that affected them. Most of the gold-bearing veins were found near the geological horizon, or contact zone between these two stratigraphic units, and were particularly abundant where this horizon was broken and dilated by strong north and northeast trending extensional faults, which faults are similar to faults shown crossing Ace Property and referred to in this report as GSC 1 and GSC 2 faults.

Rocks underlying Louis Doyle's boulder train are believed to be the same as those underlying the mines at Wells and Barkerville. Similar quartz veins in a similar structural setting can be expected on the Ace Property. However, since rocks from the boulder train have been described by senior provincial government geologists, and others, as Besshi-type massive sulphides, the same Besshi-type massive sulphides can be expected to be in the bedrock beneath the boulder train. From the point of view of tonnage potential, the massive sulphide mineralization could be much more important than the quartz veins.

Such massive sulphide deposits can be expected to be strata-bound, or conformable with stratigraphy, rather than cutting across it. Typically, a Besshi-type massive sulphide deposit is set in a thick succession of fine grained marine sedimentary rocks which has some intercalated tholeiitic or alkalic basalt. Configuration is tabular to elongate stratiform lenses or sheet-like masses of banded and massive sulphides. Although once in the form of relatively simple layers, three-dimensional configuration after intense deformation is complex, not unlike a marbled cake in the kitchen, with the ingredients folded intricately into accordion-like pleats, and overturned tightly together. Wall rocks are typically layers rich in chlorite, sericite, magnetite, albitite and tourmaline. Footwall feeder zones may be present, but are often not. Ore minerals are dominantly iron sulphides ( pyrite, pyrrhotite, marcasite, etc ) with variable sphalerite and chalcopyrite, and smaller amounts of galena, arsenopyrite and silver. Some deposits of this kind have significant cobalt, molybdenum and gold, and others variable amounts of cadmium, selenium, bismuth and tin. Typical sizes range from a few million tonnes to a few tens of millions of tonnes; a few are larger, many are smaller. Grades are typically 1-3% Cu, 1-2% Zn and 0.1% Pb. Origin is by exhalative precipitation, or by sub-sea floor replacement of permeable sediments; accordingly, such deposits pre-date deformation and metamorphism.

Boron, or tourmaline mineralization, is commonly present in Besshi-type massive sulphide

deposits. It is generally believed to have been derived from the host strata by the effects of hydrothermal convection related to the mineralization process. Perhaps the best example of tourmaline mineralization of this kind, is the extensive zone of tourmaline along the base of Cominco's Sullivan Deposit at Kimberley, in similarly old sedimentary rocks, but 500km to the southeast.

Examples of Besshi-type massive sulphide deposits in British Columbia are Goldstream, Vine, Granduc and Windy Craggy. Some massive sulphide boulders were discovered in the early 1980's near Frank Creek, 16 km southwest of Ace Property; and some showings of massive sulphides have been described in the Wells-Barkerville area. However, the productive portion of the Cariboo, especially the part lying between Wells and Cariboo Hudson, is known mainly because of placer and bedrock gold.

### **Comparison ( Salat 94/95 )**

It seems obvious that comparison with the Wells-Barkerville area be drawn up. Indeed, gold mineralization at Mosquito Creek-Island Mountain and Cariboo-Gold Quartz conforms very well to what has been found so far on the Ace claims.

- Quartz vein system hosted in the Downey succession.

- Ore-bearing quartz vein carrying up to 25% sulphides.

- Mineralized quartz vein at Cariboo-Gold-Quartz-Mine contains according to Skerl ( 1948 ) beside free gold, cosalite (  $2 \text{PbS} \cdot \text{Bi}_2\text{S}_3$  ) argenite (  $\text{Ag}_2\text{S}$  ) and chalcopyrite (  $\text{Cu Fe S}_2$  ).

- At Mosquito Creek Mine, accessory minerals in quartz veins are ankerite, galena, sphalerite and sericite.

According to Alldrick ( 1983 ) chromium bearing mariposite characterizes the hanging wall alteration zones.

Therefore, there is a general agreement between the two areas as far as gold quartz vein mineralization is concerned. The only difference at this time concerns the replacement ore type which has not been found on the ACE property. However at the Cariboo-Gold-Quartz mine, it took a 84 year span to find by accident a body of replacement ore after the original discovery ( Skerl, 1948 ).





# #3 Mini Grid Quartz Sweat Rock Area

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