BARKER

MINERALS Ltd.

22117 37A Ave, Langley, BC, Canada V2Z 1N9
• Tel: (604) 530-8752 • Fax: (604) 530-8751

GEOLOGICAL REPORT

June 1997

By: John G. Payne, Ph.D.
Vancouver Petrographics

ref: 102

Geology, Geochemistry, and Geophysics of the Little River & Ace Properties, Cariboo Mining Division, British Columbia

52°45' N; 121°15' W
NTS

owned by

Barker Minerals Limited
Langley, B.C.

by

John G. Payne, Ph.D.,
Vancouver Petrographics,
8080 Glover Road,
Langley, B.C.

June, 1997

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1.0 INTRODUCTION

1.1 Scope of Work

This report was written on behalf of Barker Minerals, Ltd., on the Ace and Little River properties. It is based on a 4-day examination by the author in May 24-28, 1997, and on detailed discussions with Louis Doyle, president of Barker Minerals, Ltd and Roy Lammle, consulting geologist, and review of data on the property in the possession of Barker Minerals, Ltd. In 1995, Lammle visited the property several times and compiled the assessment report. In 1996, he made four brief visits to the property to discuss work with field personnel (who have since left the company) and compiled the assessment report. This report mainly discusses field work during the 1996 field season and makes recommendations for the 1997 field season, which has just begun.

1.2 Location and Access

The Little River Area is 95 km northeast of Williams Lake, the nearest supply center, and 34 km northeast of Likely, the nearest settlement, which is 65 air-km northeast of Williams Lake (Figure 1). Williams Lake is an intermediate-sized city on Highway 97, on the B.C. Railway, on a major hydro-electric power grid, and with a modern airport. Likely is accessed from Highway 97 at 150 Mile House. The Ace property is one-half hour by an excellent gravel logging road from Likely. Weldwood has been actively logging fir, spruce and pine in the area, principally during winters, and has provided outlines of existing and planned roads and cut-blocks in and near the project area. Barker Minerals Ltd., maintains a property in Likely which includes a house and workshop; the house serves as a field office and provides room and lodging for the field crews.

1.3 Property (Claims)

The property consists of three parts: (1) the Ace claims, (2) peripheral claims, and (3) placer claims. All claims are registered in the name of Barker Minerals, Ltd. The Ace property consists of 176 units, staked mainly by the two-post method (Figure 2a). The peripheral claims consist of 2590 units, staked mainly by the four-post (metric) method (Figure 2b). A few small blocks of claims inside the main peripheral block are owned by non-related parties. The placer ground consists of 15 placer units, named P4, P5, P6, Roar 1-8, and Kloo 1-4 (Figure 2c). The detailed list of the claims and pertinent data are in Appendix 1. GSM-19 magnetometer work on Ace West 1 & 2 has been used for assessment work on the Roar 1-8 placer claims.

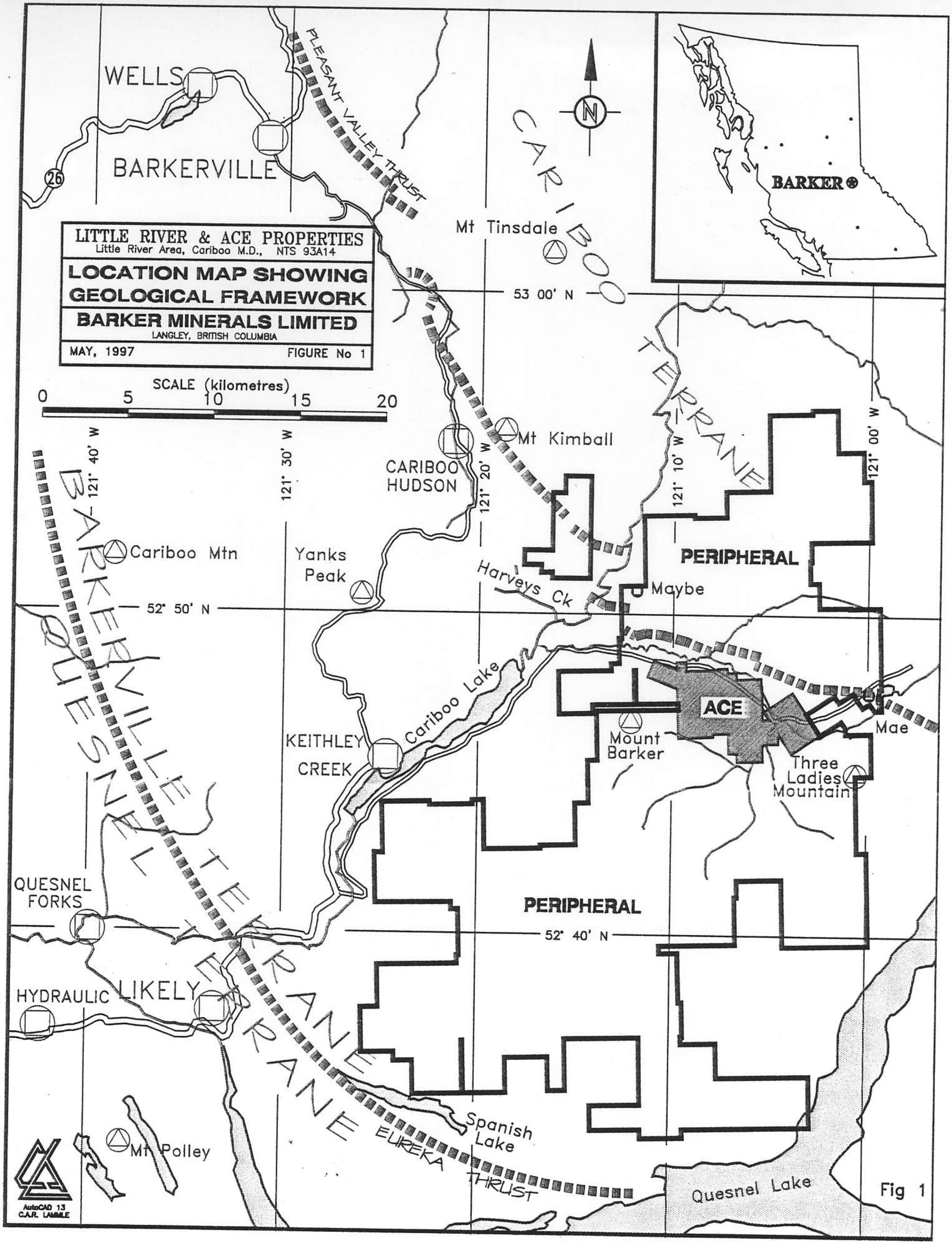


Fig. 1 Location Map Showing Geological Framework

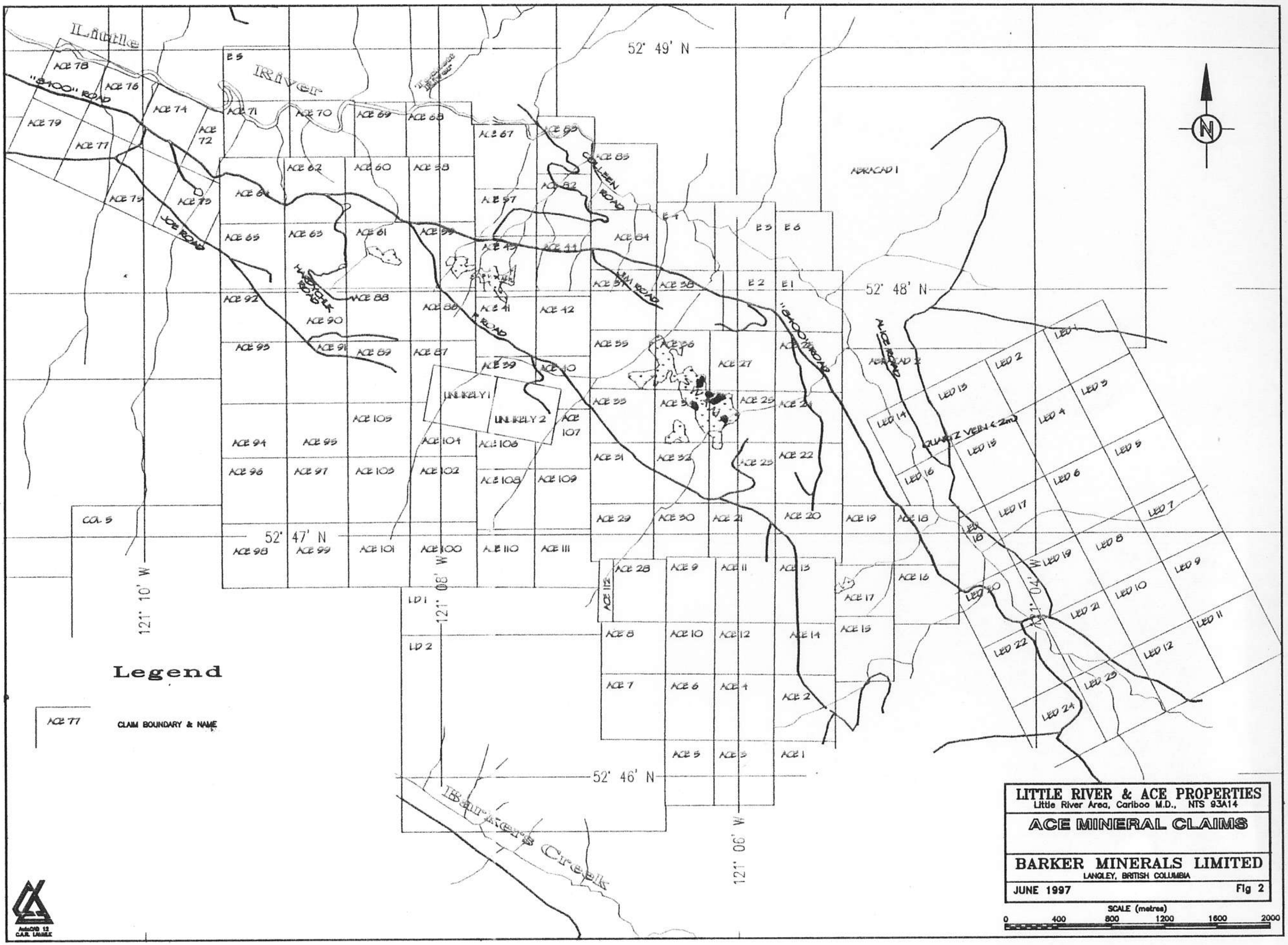


Fig. 2 Ace Mineral Claims

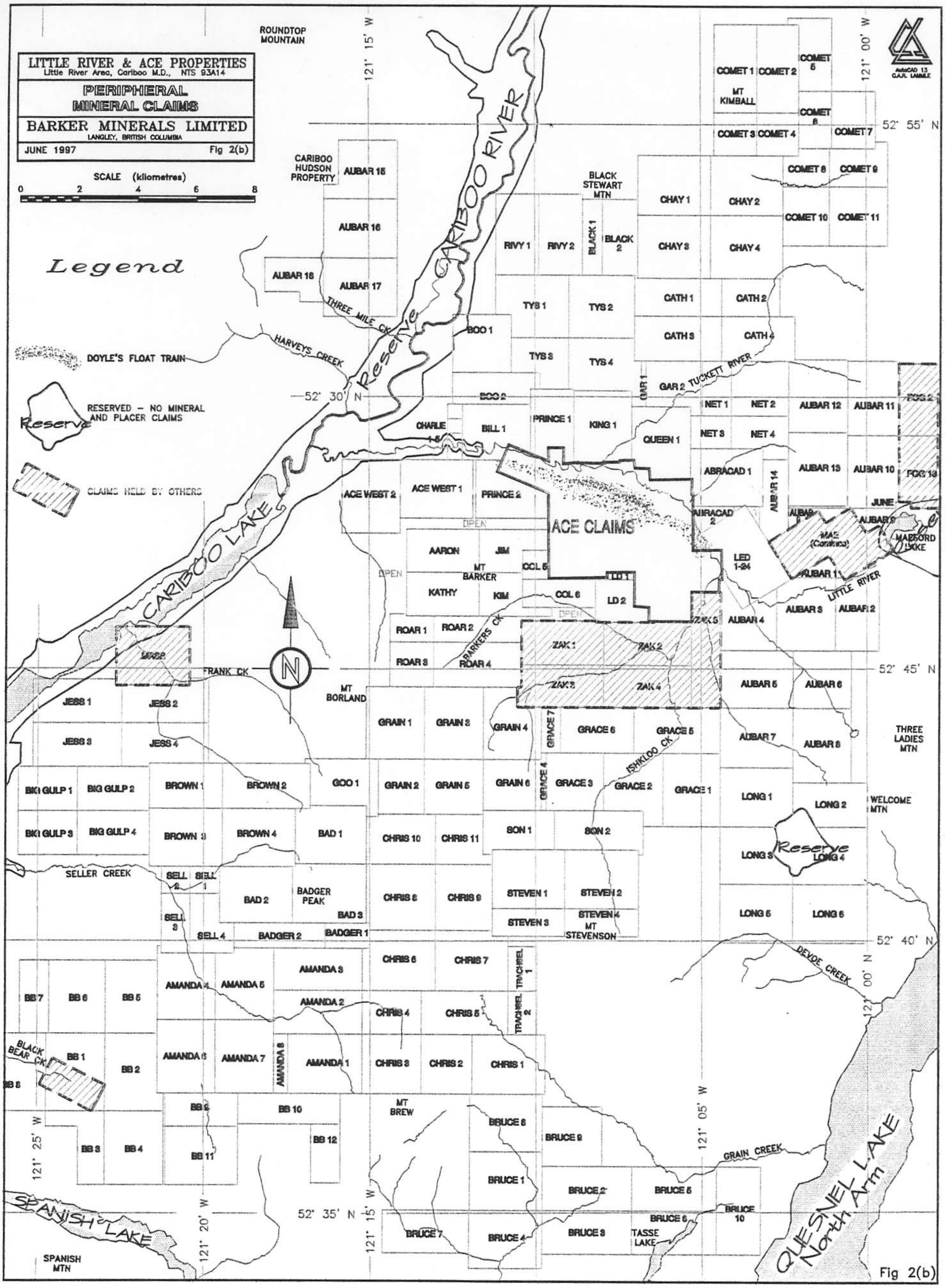


Fig. 2(b) Peripheral Mineral Claims

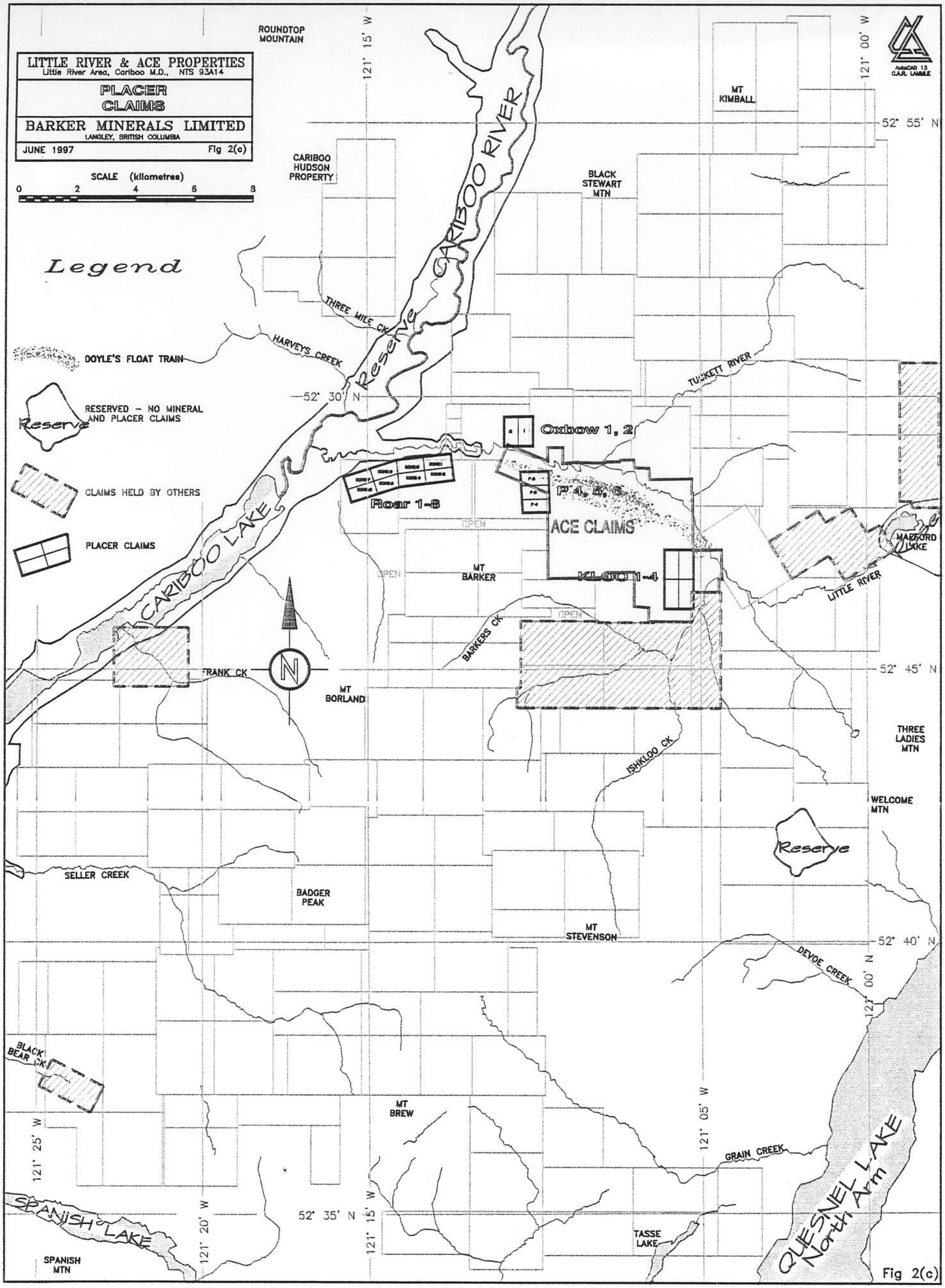


Fig. 2(c) Placer Claims

1.4 Regional Economic History

Historic gold production in the Barkerville-Wells area was 3.7 million troy ounces, with 1.93 million ounces from placers and 1.8 million ounces from 2.74 million short tons of underground ore. Values before 1874 are estimates only, because no production was recorded.

The great rush to the Cariboo began in 1858, and by 1862 Barkerville was said to be the largest western town north of San Francisco. One of the most important discoveries was in the winter of 1861 when Bill Deitz discovered a rich paystreak in shallow surface gravel lying on hard blue clay on the banks of Williams Creek. Another important discovery was in the fall of 1862 when Bill Barker penetrated the blue clay along Williams Creek to bedrock 16 m below and recovered 62 ounces of gold in two days. The historic Bullion Pit near Likely produced 175,700 ounces of gold and about 1/100th as much platinum, from 200 million tons of gravel. Gold and platinum were reported in placers in the Frank Creek area in similar proportions.

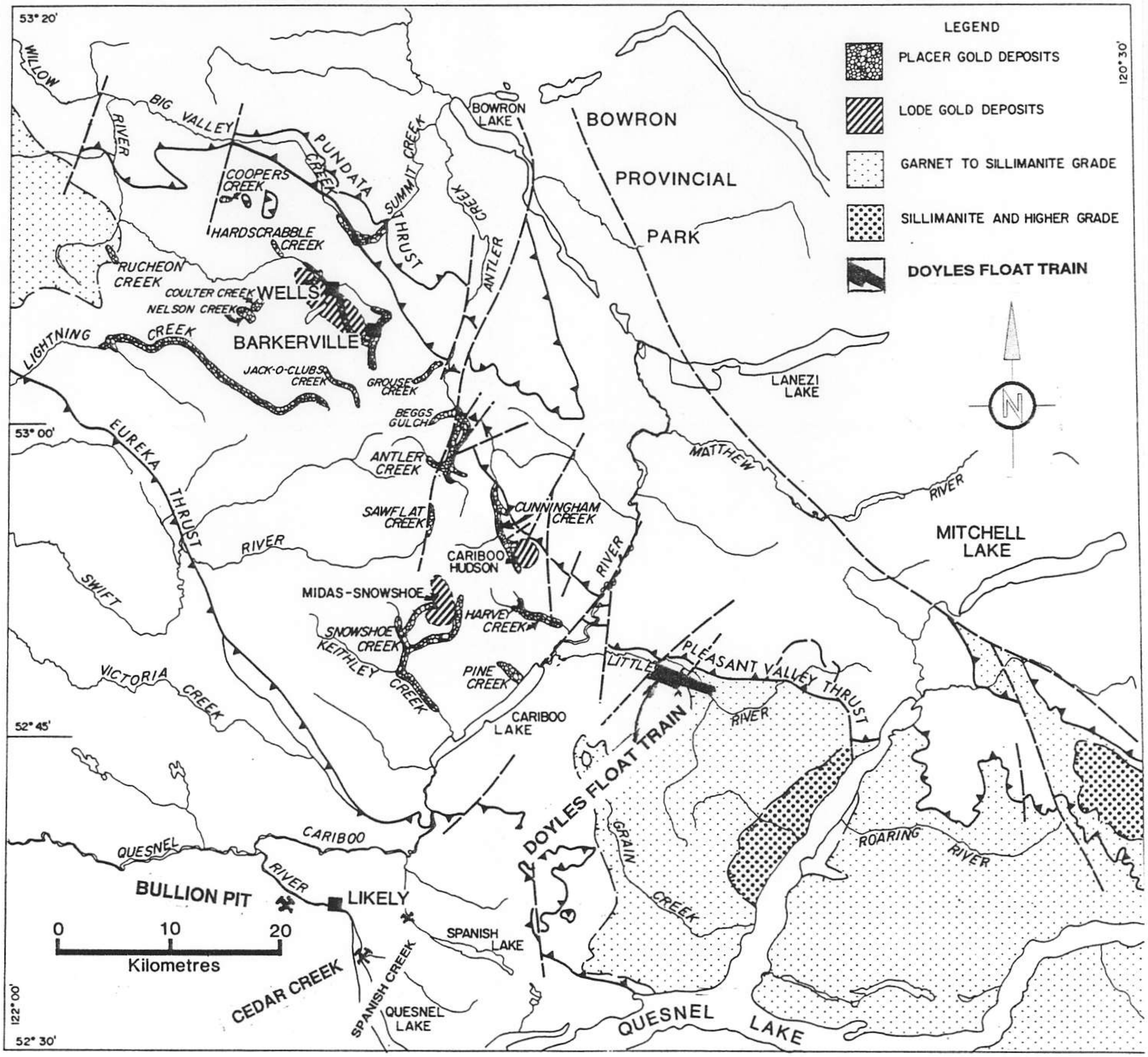
Placer gold is hosted by three distinct stratigraphic horizons in the glacial sediments. The lowest horizon (>30,000 years) is poorly sorted gravel that was deposited before the Fraser-stage ice advance. Placer gold in this stratum were winnowed from pre-existing valley-fill deposits. The second stratum, commonly directly above the blue clay layer, was created by fluvial reworking of the older gravel, resulting in reconcentration of the earlier placer deposits. The third horizon is at the present surface, where heavy flakes and nuggets remain, close to their source, concentrated by modern stream action.

Recent work (Eyles, 1994) showed that in the placer gold deposits of the Cariboo region, coarse, angular grains of gold formed by *in situ* growth. Many consist of aggregates of gold particles cemented by high-grade gold (>980 fine). Gold may have been mobilized by complex organic ions which formed beneath the dense temperate forest cover. Placer gold grains probably underwent cycles of coarsening by aggregation and cementation during interglacial periods, and fracturing and rounding produced by transport and erosion during active glacial periods. Near the erosion surface of lode deposits, coarse gold occurs in leaves, veinlets, and open-space fillings in strongly fractured quartz associated with patches of limonite. Beneath the zone of leaching, gold forms much finer grains intergrown with sulfides. This indicates that in the zone of weathering, gold was mobilized into solution and reprecipitated as in the placer environment.

Much of the lode and placer gold production from the Wells and Barkerville areas, and most of the important gold prospects in the region are in the Downey succession in the eastern or "upper" third of Barkerville terrane (Figure 3). At the historic mines, the strata trend 045° and dip 45°NE, and are cut by north- to northeast-trending normal faults dipping 60°E. The zones of economically important quartz veins were near a contact between carbonate-bearing and graphite-bearing layers. The miners called these the Baker and Rainbow members, respectively, the ore being mainly in the Rainbow member. The late, normal faults cut strata of different competencies – brittle black quartzite and light coloured carbonate – and produced dilatent zones, which were preferentially filled by quartz veins. Foliation in the rocks commonly is parallel to bedding, and isoclinal folds are common.

Two sets of quartz veins are mineralized – transverse veins striking 030°, and diagonal veins striking 070°. Two other sets of quartz veins are unmineralized. In places, ore zones consist of a high density (large number of veins in a given volume of rock) of short, discontinuous veins. Transverse veins with widths to 0.3 m and lengths to 15 m, are the most abundant. A few diagonal veins are up to 45 m long. Miners estimated grade using the rule of thumb that 100% pyrite would yield 2 oz/st Au. Ore veins

REGIONAL HISTORICAL LODE & PLACER MINING AREAS



Distribution of the most economically important placer and lode gold deposits, throughout the Cariboo gold belt and southeast to Quesnel Lake. Areas of chlorite (unpatterned), garnet to sillimanite, and sillimanite and greater grades of metamorphism are indicated

Figure is a modification from

Struik, L.C., 1988, STRUCTURAL GEOLOGY OF THE CARIBOO GOLD MINING DISTRICT, EAST-CENTRAL B.C. GSC Memoir 421.

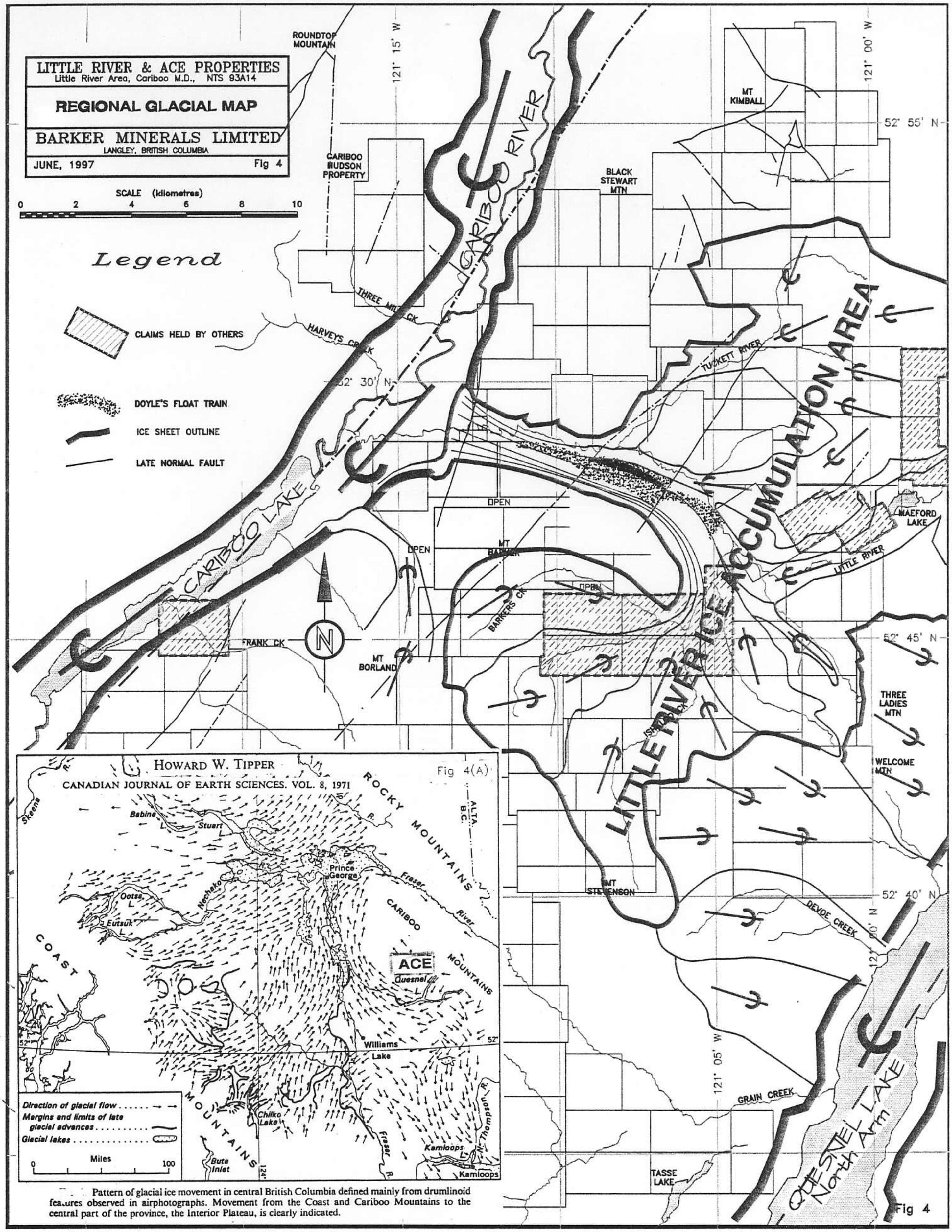
Fig. 3 Regional Historical Lode & Placer Mining Areas contained 15-25% pyrite. Pyrite in altered wall rock contained less gold. Other common sulfides in the mines are arsenopyrite, galena, sphalerite, cosalite (PbBiS), scheelite, galena, and bismuthinite (BiS_2). Free gold commonly occurred with nests of cosalite. Gangue minerals are quartz and ankerite/siderite. Wallrock alteration minerals are ankerite and sericite.

Replacement bodies of auriferous pyrite in carbonate rocks were important, particularly in the Island Mountain Mine, north of Jack of Clubs Lake. These accounted for about one-third of the ore mined. The last replacement ore was found in 1944, in the lower part of the Baker member, within 30 m of the underlying Rainbow member. The miners were following a quartz vein in brittle argillaceous quartzite. Where the quartz vein terminated in ductile limestone, the mineralization changed to replacement of limestone by coarsely crystalline pyrite, in layers less than 1 m thick parallel to bedding. The complex structure in this mine is described in the literature as being a large drag fold, "N" shaped in cross section, but partly overturned to the northeast. In places, persistent mineralization developed along the plunge of fold erests.

1.5 Geography and Physiography

The Little River Area is in the central part of the Quesnel Highland between the eastern edge of Interior Plateau and the western foothills of the Columbia Mountains. It contains rounded mountains transitional between the rolling plateaus to the west and the rugged Cariboo Mountains to the east. Remnants of the plateau surface (about 1000 m elevation) have survived erosion east, north, and west of Maeford Lake and in the headwaters of Ishkloo Creek. Pleistocene and Recent ice sheets flowed away from the high mountains to the east over these plateaus and down to the southwest (Cariboo River), west (Little River) and northeast (Quesnel Lake), carving U-shaped valleys (Figure 4). In the Cariboo Mountains, summits smoothed by glacial ice exceed elevations of 2000 m. Further east, more rugged peaks rising to 2600 m may have been nunataks that protruded through the continental ice sheet.

The last glacial stage that affected Quesnel Highland, the Fraser glaciation, began 30,000 years ago. Much of this ice disappeared 10,000 years ago, but small alpine remnants are preserved high in the Cariboo Mountains. At lower elevations, glaciers of this age scoured the debris left by preceding ice advances, almost completely destroying them, and left a chaotic assemblage of unsorted till, moraine, and drift, with lenses of gravel and sand that had been roughly sorted by meltwater and rivers, and beds of silt and clay that were stratified by settlement in ice-dammed lakes. In the Cariboo area, the debris covers bedrock in valleys below 1700 m, smoothing and contouring the landscape. In many places, typical glacial features (U-shaped valleys, ice-sculpted drumlins, moraine terraces, glacier and river benches) can be distinguished. On the Barker properties, glacial deposits range from a few to a few tens of metres thick. Some glacial till deposits are overlain by well bedded, glacio-lacustrine clay and silt deposits up to a few metres thick.



Pattern of glacial ice movement in central British Columbia defined mainly from drumlinoid features observed in airphotographs. Movement from the Coast and Cariboo Mountains to the central part of the province, the Interior Plateau, is clearly indicated.

Fig. 4 Regional Glacial Map

In Little River and in other places in the Cariboo district, distinctive, hard, compact, and semi-rigid, blue clay sits either on or slightly above bedrock and acts as a "false" bedrock. It is interpreted to have formed by erosional processes that affected the drift left by the last ice advance prior to the Fraser glaciation, and to have been compacted by the weight of the Fraser stage ice. In the placer-gold areas of the Cariboo, large amounts of gold were recovered from gravels resting on this clay, and in places it was penetrated by the miners to reach richer pay streaks on true bedrock below. Where encountered during trenching, gravel fines on the surface of blue clay should be sampled and panned, and if the trenching penetrates to bedrock, the gravel fines on bedrock should likewise be sampled and panned. Heavy mineral concentrates, perhaps some base-metal minerals, and suites of other heavy rock-forming minerals from the gold pan and from more elaborate gravity separations provide useful vectors for prospecting material in moraines back to their sources.

Precipitation in the region is heavy, with rain in the summer and snow in the winter. Drainage is to the west via the Cariboo, Little, and Quesnel Rivers to the Fraser River. Quesnel Lake, the main topographic and scenic feature in the region, is a long, forked, fjord-like, glacier-carved lake with an outlet at 725 m elevation. It is one of the deepest lakes in the province.

1.6 Previous Work on the Property

In 1993, while hunting with friends south of Little River, 34 km northeast of Likely, B.C., Louis Doyle noticed a yellow glistening in the sand beneath the water at the outlet of a corrugated steel culvert along the "F" spur, a branch off Weldwood's "8400" logging road. A grab sample from this sand (possibly contaminated by another from 2 km down the road) contained 129 g/t gold. At the end of October, Doyle staked the Unlikely I and Unlikely II claims on the probable source area, which in November were put into a new company, Barker Minerals Limited.

In 1994, the Ace claims were staked on the north-facing slope of Mount Barker. Prospecting, reconnaissance geology, line cutting, and soil geochemistry during the summer of 1994 located many cobbles and boulders of glacially transported quartz, quartz-pyrite-pyrrhotite, and semi-massive to massive, iron-rich sulfides. Many of these contain minor to moderately abundant amounts of one or more of tourmaline, sphalerite, chalcopyrite, galena, and graphite. The main boulder train (Doyle's float train) is 8 km long, from Km 8423 to Km 8431 along Weldwood's main haul "8400" Road, and several hundred metres wide (see Figure 4). Grab samples from many boulders contain intriguing amounts of gold and/or base metals. The average of 53 widespread float boulders of sulfide-bearing quartz veins is 3.1 g/t Au, with values ranging up to 29 g/t Au. Many of the higher-grade gold samples contain significant values in lead (1000-2000 ppm), bismuth (100-2500 ppm), selenium (20-50 ppm) and Te (10-34 ppm). Several, pyrrhotite-rich massive sulfide boulders contain 3-13% Zn+Pb, and up to 3 oz/t Ag and 0.25% Cu. Gold has been and continues to be the major economic focus.

Doyle's float train probably was deposited as a lateral or medial moraine from the large glacier that flowed down Little River valley from an ice sheet at the headwaters of the Ishkloo drainage basin (Figure 4). At that time, a larger glacier filled the valley of the Cariboo River, blocking the exit of the Little River ice lobe. The transport distance of float is difficult to establish, and estimates are based empirically on the amount of rounding of boulders, and the size and frequency distribution of boulders (larger, more angular, and more abundant fragments have been dispersed less from their source than smaller, more rounded, and less abundant ones). Many of the boulders of quartz-rich veins and massive sulfides are subrounded to subangular, and many of the associated coarse blocks of country rocks are strongly angular. These data suggest the source of the boulders probably is bedrock from beneath the glacial material only slightly up-glacier from their present positions.

The 1995 program included prospecting, line cutting, geochemistry, geophysics and geology. This expanded the data base and outlined geophysical and geochemical targets for future work. The property was visited by Vic Preto in 1995 and by Preto and and Trygve Hoy in 1996. Some of their comments are included in later parts of the text.

In 1996, Barker Minerals staked 2590 peripheral claim units based on the following factors:
1. Mineralization found during prospecting on several peripheral claims.
2. Department of Mines reports for the 1880-1920 era, which described occurrences of placer gold and minor platinum in several streams in the area,
3. the presence of significant, anomalous base-metal values in the regional BCRGSS stream-sediment geochemistry Open File report of the early 1980s, and
4. favorable geology reported in B.C. Department of Mines reports and other sources.

The term, "Little River Area", denotes the area of the peripheral mineral claims, most of which are between Cariboo River and the North Arm of Quesnel Lake. Barker Minerals, Ltd., has the option to explore the peripheral claims itself, or to offer joint-ventnre packages to potential partners on certain key groups of claims which cover significant geochemically and geologically anomalous zones.

1.7 Summary of Assessment Reports

The bibliography lists by assessment number 51 public assessment reports submitted by industry. Most include small parts of the area covered by the Barker peripheral claims. The earliest was from 1973, but the bulk of the work was done during the early 1980s on bedrock targets. A placer prospect in the Harvey's Creek area on the northwest side of the Cariboo River received appreciable work over a number of years. From these reports, the distribution of exploration activity can be categorized according to terrane (see Section 2 for discussion of terranes).

In the Cariboo terrane, extensive geological, geochemical, and geophysical work defined a broad zone of complexly folded, ductile carbonate and brittle quartzite in which galena and sphalerite occur in small quartz veins and replacement deposits. Assays of Pb+Zn up to 6% with a few grams of silver have been reported over widths mainly less than 1 metre, and commonly only a few tenths of a metre. Most showings are of small, northeast-trending galena-bearing quartz veins in brittle rocks near the contact with the ductile ones in the core of a broad zone containing anomalous soil and stream-sediment values in Pb and Zn. This zone extends for 20 km from the North Arm of Quesnel Lake to Black Stewart Mountain.

Extensive work has been recorded by Cominco on the Mae Prospect just west of Maeford Lake, and by Gibraltar Mines on the Cariboo prospect, just northeast of the confluence of the Little and Cariboo Rivers. Cominco still owns the former and Barker Minerals owns the latter. The Mae prospect. on an erosional plateau surface, contains white and light green sphalerite and galena at three stratigraphic levels in the Bralco marble near a contact with argillite and quartzite. Limited bulldozer trenching and 21 diamond drill holes by Gibraltar Mines produced a calculated mineral inventory of 400,000 tonnes with a grade of 4% Pb+Zn.

In the Barkerville terrane, near the mouth of Frank Creek 5 km east of the south end of Cariboo Lake, massive sulfide boulders contain up to 5% Pb+Zn in gravel. The bedrock is marked by a contact between Quesnel Lake orthogneiss and undifferentiated phyllite, quartzite, and earbonaceous members of the Barkerville terrane, which are warped around and partly truncated by the metamorphosed Paleozoic intrusion. Formosa Resources Corp. And Rio Algom Mines defined soil geochemical Pb and Zn anomalies and airborne Em and magnetometer anomalies.

In the Quesnel terrane, extensive work was done by a number of companies along a southeast trend from the mouth of Seller Creek to east of the east end of Spanish Lake. The bedrock is Mesozoic marine volcanic rocks of the Quesnel Trough. The earliest claim blocks were staked in response to the release of government regional geochemieal data showing anomalies in arsenic and smaller ones in base metals. Areas of high arsenic were staked on the basis of a potential gold-arsenic association; however, only moderate to low values in gold and silver have been found to date. Some placer gold has been produced from Spanish Creek downstream from Spanish Lake, and a well-know bedrock gold prospect lies on Spanish Mountain southwest of the lake.

2.0 REGIONAL GEOLOGY

2.1 General

The regional geology was described by L.C. Struik (1988) and others (see bibliography), and some of Struik's tables and figures have been used in this report (Figures 5, 6a, 6b). Because of inconsistencies and duplicity in strata names that has evolved over the decades, Struik recommended that the existing names for units in the regional terranes be abandoned. Struik's nomenclature is adopted in this report.

2.2 Monashee Metamorphic Core Complex and Kootenay Terrane

2.2.1 Geology

During the Late Proterozoic and Early Paleozoic, detritus eroded from the west-central part of the stable North American continent accumulated as layers of fine clastic sediments along the western margin. Carbonate reefs were formed close to the edge of the continent. Minor submarine volcanism showered the sediments with local layers of breccia and ash, and at greater distances, with finely laminated layers of siliceous dust, which locally contains disseminated sulfides. Some geologists infer rifting with minor right-lateral movement along the continental margin. Turbidite deposits were formed further to the west by periodic slumping of the pile of sediment, probably associated with tectonic movement along growth faults.

Well to the southeast of the property, the Kootenay terrane overlies the Monashee metamorphic core complex, a large uplifted mass of high-grade paragneiss, quartzite and marble. During uplift of the core complex, the overlying, somewhat less metamorphosed rocks slid off it along large detachment faults, in part to the southwest, and in part to the northeast. The Little River area is on the flank of the northern, unexposed portion of this core complex. Between the Ace claims and the North Arm of Quesnel Lake, a metamorphic aureole on the northwest side of the North Arm is defined well by rock mineralogy. The metamorphic grade decreases northwest from the North Arm as the characteristic pelitic mineral assemblage changes progressively from sillimanite near the lake to staurolite-kyanite, almandine garnet, biotite, and finally chlorite northwest of the Ace claims. The garnet isograd runs northerly across the Ace group. The biotite isograd is 30 km further northwest. Historic mines near Wells and Barkerville are in rocks of the greenschist facies. The age of both deformation and metamorphism is regarded as Mid-Jurassic, which was the time of collision of the North American plate to the east with a group of island arcs to the west.

2.2.2 Volcanogenic Massive Sulfide Deposits

Conformable, semi-massive to massive sulfide deposits of the Besshi type occur in the Kootenay terrane (Goldstream deposit), and other similar terranes such as Yukon-Tanana and Nisling, and the Klondike schist. Host rocks are multiply-deformed and metamorphosed assemblages of micaceous quartzite, phyllite, and schist, commonly graphitic and commonly with marble and meta-volcanic rock lenses. Besshi deposits contain pyrite, pyrrhotite, magnetite; and chalcopyrite, local sphalerite, and rarely with galena. Host rocks are mainly sedimentary, commonly siltstone, quartzite, and carbonaceous schist near amphibolite (after mafic meta-volcanic rocks).

2.3 Barkerville Terrane

In the Little River Area, four main geological terranes are represented, most of which are dominated by marine sedimentary rocks (Figure 7). Most of the Little River area is underlain by marine strata of the Barkerville terrane. The rocks have been described previously as belonging to the Snowshoe group and the Cariboo series. The group as a whole and many of its fourteen sub-divisions resemble the Horsethief Creek group to the southeast; and some members resemble the Eagle Bay formation to the southeast, which contains massive sulfide deposits near Adams Lake. In the early 1970s, the 'upper' or eastern portion of Barkerville terrane was regarded as Hadrynian in age and renamed the Kaza group.

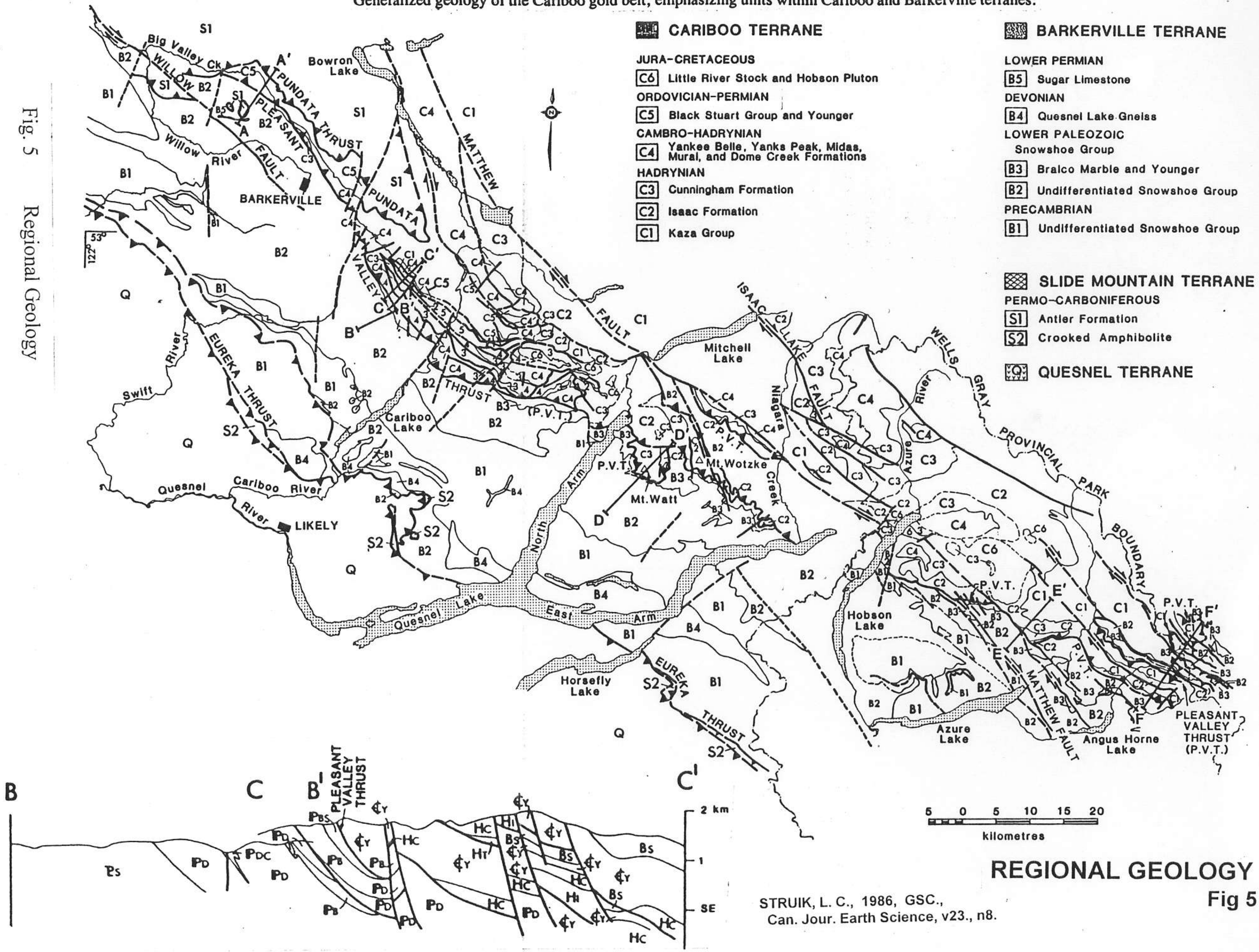
The Barkerville terrane (750Ma) is similar to the Kootenay terrane in character and suspected origin, and is categorized by the Geological Survey of Canada as a subdivision of the Kootenay terrane. The assemblage was deformed by an intense tectonism that caused complex, in part isoclinal folding and overturning, producing an intimate interlensing of impure quartzite, siltstone, ankeritic dolomite, pelite, and amphibolite, which are cut by dikes and sills of metamorphosed diorite. Local stronger shear deformation produced mylonitic textures. The detailed age of the terrane has not been determined, hence the age is classified broadly from Late Proterozoic to Mid-Paleozoic.

The eastern third of this terrane is the main zone of economic interest in the Cariboo district. Struik described it as being "gold-enriched", because it contains the historic Wells and Barkerville mines 39 km to the northwest, and the Cariboo Hudson 18 km to the northwest of the Ace property. This zone contains rocks of the Downey succession, described by Struik as being olive and grey micaceous quartzite and phyllite, amphibolite, marble, meta-tuff, and meta-diorite sheets or sills. These descriptions are compatible with the rock types on the Ace property, although the latter contains more metamorphosed felsic/intermediate volcanic rocks. The stratigraphic tops are unknown.

Bowman (1886) described a 0.9-2.4 m wide stratiform ironstone ledge, 400 m below the falls on Harvey's Creek, upstream from some placer workings of the day, and another ledge nearby. The rock contains olive and bluish feldspar and much red-weathering siderite, pyrrhotite, and pyrite with trace gold. Boulders from the ironstone ledges "strew the placer mines below". Getsinger (1985) noted up to 20% iron sulfides in amphibolite in the cirque on the north face of Three Ladies Mountain 20 km to the southeast of the Ace property. The amphibolite contains pegmatitic hornblende crystals intergrown

Fig. 5 Regional Geology

Generalized geology of the Cariboo gold belt, emphasizing units within Cariboo and Barkerville terranes.



REGIONAL GEOLOGY
Fig 5

STRUIK, L. C., 1986, GSC., Can. Jour. Earth Science, v23., n8.

STRUIK

with finer grained diopside, garnet, epidote, plagioclase, and calcite. A distinctive, hard, black, graphitic quartz siltstone forms discontinuous layers up to 5 m thick; it has a slight phyllitic sheen, exhibits local pencil cleavage, and is folded with porphyroblastic staurolite-kyanite pelitic schist, limy schist and amphibolite. To the northeast, this sequence is overlain in turn by a carbonate-amphibolite assemblage; a staurolite-kyanite schist with magnetite-bearing layers, and a thick succession (2 km) of interbedded grey micaceous quartzite, garnetiferous quartz-mica schist, and finally by coarse grained, white marble.

The Barkerville terrane is cut by the Mid-Devonian Quesnel Lake gneiss (350Ma), a coarse grained, leucocratic, biotite granitic gneiss with megacrysts of potassium feldspar. The body of gneiss is up to 30 km long and 3 km wide, and is elongated parallel to the eastern border of the Intermontane belt. Its contacts are in part concordant with and in part perpendicular to metamorphic layering. It contains four main phases: hornblende gneiss, feldspar gneiss, amphibolite gneiss, and garnetiferous syenite gneiss. Contact relationship with Barkerville rocks are controversial. The Barkerville terrane hosts folded, sill-like masses up to 300 m thick of gneissic meta-diorite (400Ma), and contains post-metamorphic anatectic pegmatite (86Ma), particularly in a high-grade metamorphic aureole, northwest of the North Arm of Quesnel Lake.

The line joining the Three Ladies cirque with the Harvey Creek ironstone ledge lies along the upper third of the Downey succession, and along the axis of Doyle's float train. The main rock types in the float train are similar to those described from these two localities. The Three Ladies – Mount Stevenson area contains sparse pyrite, chalcopyrite, and molybdenite associated with rusty oxidation near vertical northeast-trending quartz veins; these samples were not assayed for gold or silver.

2.4 Cariboo Terrane

The northeastern part of the Little River area is underlain by marine peri-cratonic sedimentary strata of the Cariboo terrane, of about the same age as the Barkerville terrane. The Cariboo terrane consists mainly of limestone and dolomite with lesser siliceous, clastic, sedimentary rocks and argillite. Some geologists believe that the two terranes are part of the same terrane, with the Cariboo being a shallow, near-shore facies in the same erosion-deposition system. No rifting is suspected between the Cariboo terrane and the North American continent, in contrast to the Barkerville terrane.

The Cariboo and Barkerville terranes are separated by the regional Pleasant Valley thrust fault, which dips northeast moderately to steeply, and which moved the Cariboo block from the east over the Barkerville block along a strike length of over 100 km. The fault is difficult to locate in detail in the field, suggesting that much of the movement attributed to it may have occurred elsewhere than at the "contact" between the two terranes, and that the extent of movement may not be as large in this area as reported previously from other regions.

The Cariboo terrane hosts the Jurassic/Cretaceous Little River stock, a medium grained granodiorite grading to quartz monzonite. A normal fault along its southwest side (Little River fault) dips east and extends southeasterly to Limestone Point, on the west side of the North Arm of Quesnel Lake. It intersects, and, in some literature, has been confused with the Pleasant Valley thrust. It moved chlorite-biotite grade layers of Cariboo terrane eastwards to rest against staurolite-kyanite grade layers of Barkerville terrane.

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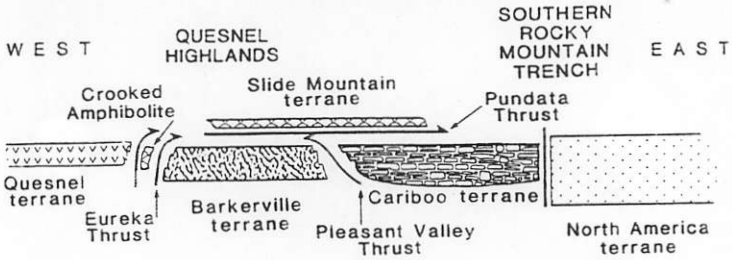


A diagrammatic structure section showing the relationship between the four terranes of Cariboo gold belt and their bounding faults.

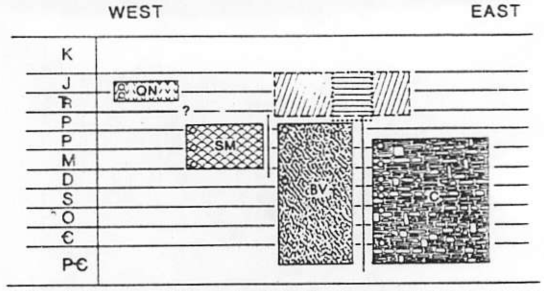
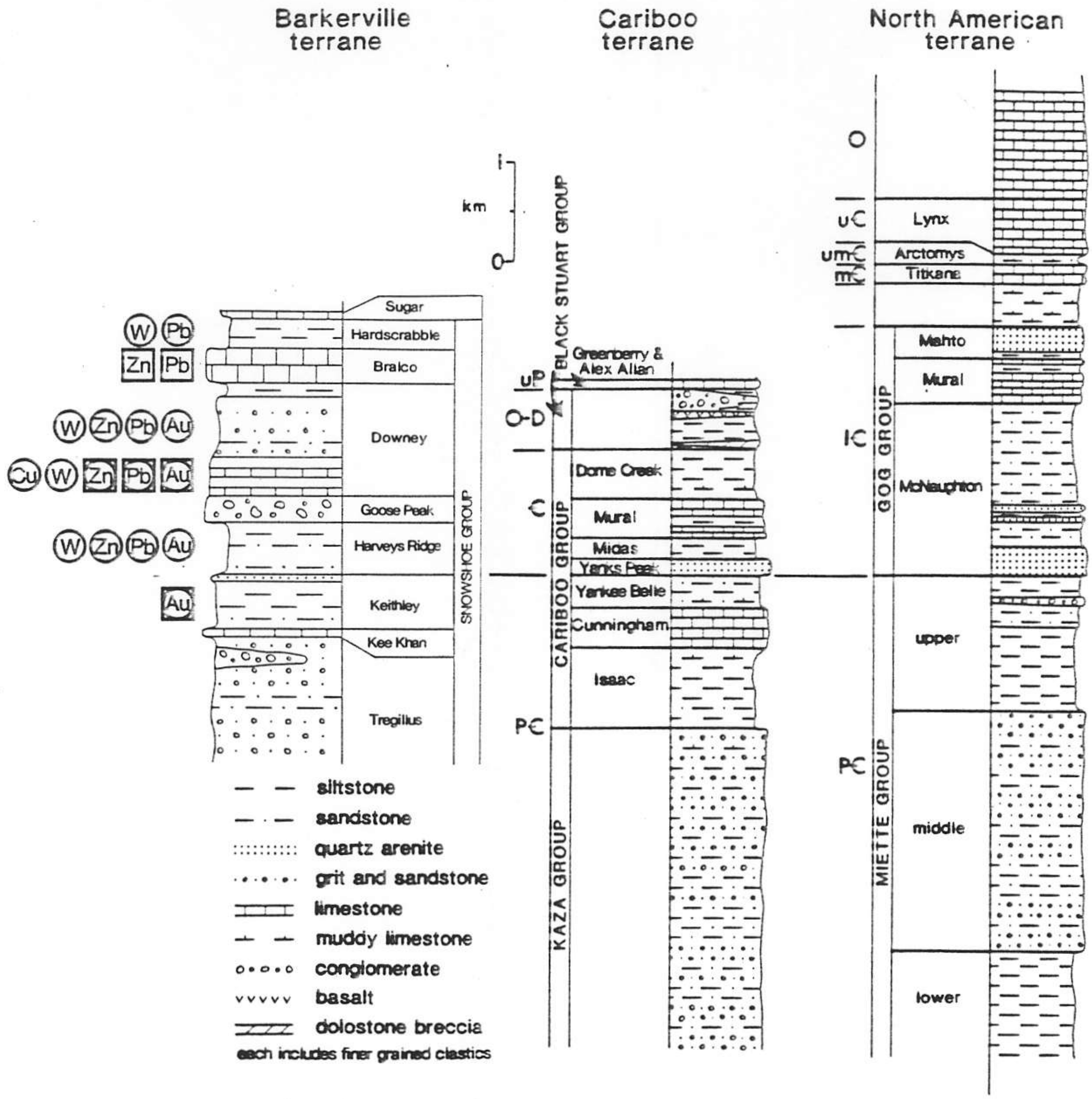


FIG. 4. The age of the rocks of the four terranes is shown by their position in the Late Precambrian to Cretaceous time scale. The age range of the thrusting of Cariboo onto Barkerville terrane is indicated by the box with horizontal lines. The age range of thrusting of Slide Mountain terrane onto Barkerville and Cariboo terranes is shown by the box with the diagonal lines. The age of thrusting of Quesnel terrane onto Barkerville is constrained to the Middle Jurassic to Late Cretaceous. Terranes: QN, Quesnel; SM, Slide Mountain; BV, Barkerville; C, Cariboo.

REGIONAL TECTONIC SECTION
Fig 6(A)

L. C. STRUIK, 1986, GSC.,
Can. Jour. Earth Science, v23., n8.



Generalized stratigraphy of Barkerville, Cariboo, and North American terranes.

REGIONAL STRATIGRAPHIC COLUMN

Fig 6 Regional Tectonic Section & Stratigraphic Column

Fig 6(B)

Some of the carbonate layers in the lowest part of the Cariboo terrane are enriched in zinc and lead. Since the 1970s, preliminary exploration on Zn-Pb targets has been carried out along these strata over a strike length of 23 km from near the head of the North Arm, via Maeford Lake to the Maybe prospect (now renamed Cariboo). Quartz-barite-galena-sphalerite veins occur in carbonate strata at Black Stuart Mountain.

2.5 Quesnel Terrane

A small southwestern portion of Little River area is underlain by the Late Triassic to Early Jurassic, allochthonous Quesnel terrane. It is partly submarine and partly sub-aerial, and consists of volcanic and volcaniclastic rocks and and comagmatic intrusions, with minor carbonate lenses and related sedimentary rocks. Regionally it hosts many important mineral deposits, mainly of Cu and Cu-Au, such as Highland Valley, Craigmont, Copper Mountain, QR, and Mt. Polley. The Bullion Pit, from which impressive amounts of placer gold were produced by hydraulic monitoring, is near Likely just on the west side of the boundary between the Barkerville and Quesnel terranes. The latter terrane was accreted to the North American continent, in part by subduction and in part by obduction. The Eureka thrust fault marks the boundary between the Quesnel and Barkerville terranes and the boundary between the Intermontane and Omineca physiographic belts.

2.6 Slide Mountain Terrane

Rocks of the Devonian to Late Triassic Slide Mountain terrane underlie a very small part of the Little River area. Portions of these rocks were obducted, and others subducted during collision of a plate of oceanic crust with the continent. They are exposed mainly east of Wells and Barkerville, (and elsewhere in B.C.) as the upper plate overlying the generally low-angle Pundata thrust fault. Where this fault crosses the southwest part of the Little River area, it is nearly vertical. Small slices of mainly mafic volcanic and alpine-type ultramafic rocks of the Slide Mountain terrane occur in and parallel to the Eureka thrust. Less abundant lithologies include chert, grit, and argillite. Regional correlation suggests that part of the assemblage could be the basement of Quesnellia. (See Figure 6a).

3.0 PROPERTY GEOLOGY

In spite of the amount of work done prior to 1997, the Ace property had not been mapped geologically in detail, partly because of paucity of outcrop. The geology comes from combining Struik's regional geology with that from the few known outcrops, mainly in creeks and road cuts. Several other areas have more exposure and have been mapped in moderate detail; these include the Cariboo prospect and the Frank Creek area. Abundant exposures occur in alpine cirques and on mountain crests.

The Ace property, and much of the peripheral claims are underlain by the Barkerville terrane which, except its easternmost part, is believed to be Late Proterozoic (Figure 7). The Barkerville terrane is overthrust from the east along the Pleasant Valley thrust by the Cariboo terrane, and is in tectonic contact with the Slide Mountain and Quesnel terranes on the west. The position and amount of offset on the Pleasant Valley thrust fault are uncertain.

The main metamorphic foliation in both the Barkervlle and Cariboo terranes is coplanar with the Pleasant Valley thrust, striking northwest and dipping moderately northeast. Rocks in both terranes were deformed strongly by tight isoclinal folds whose axes plunge 30°NW parallel to a prominent

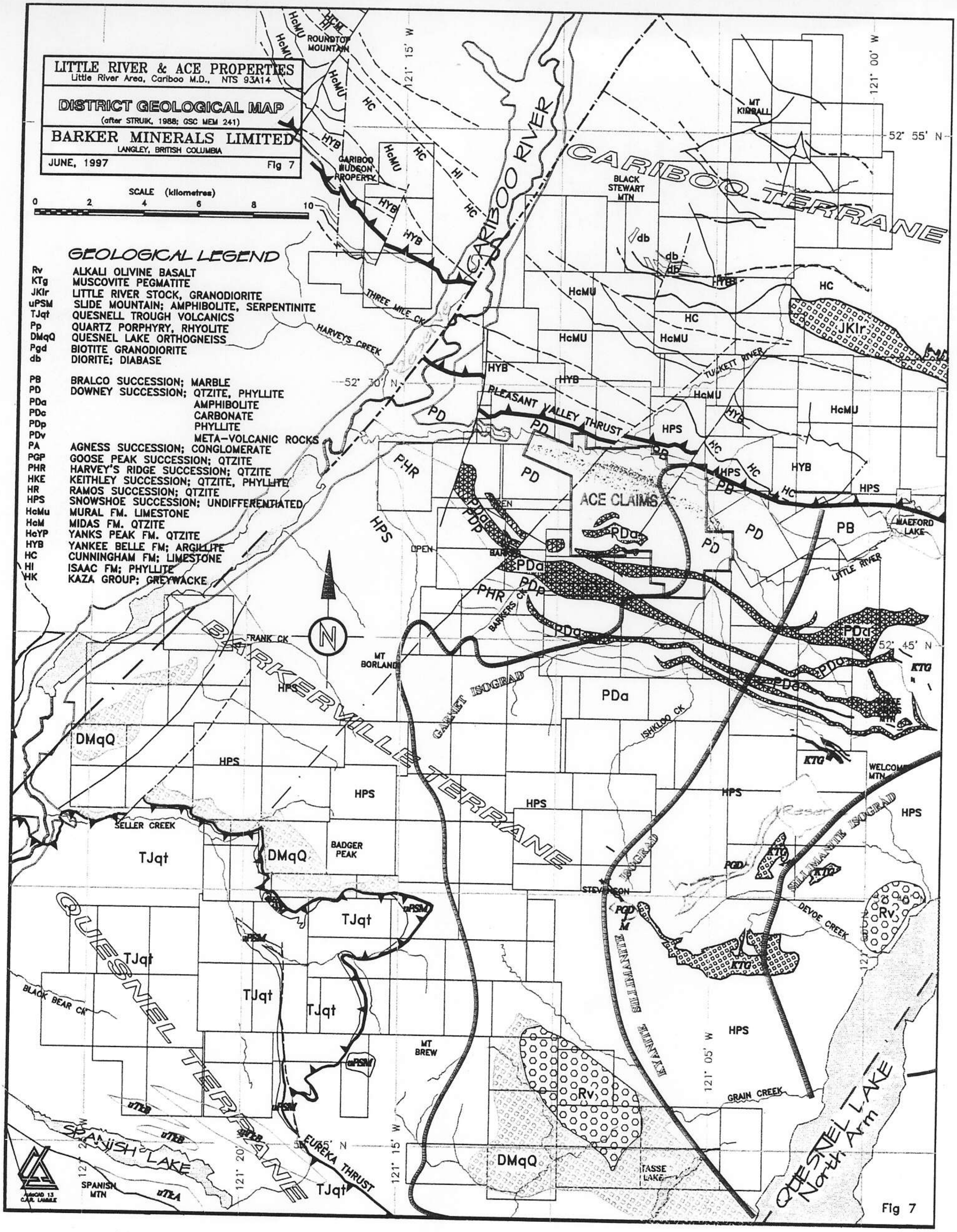


Fig. 7 District Geological Map

mineral lineation. In the Three Ladies Mountain area to the southeast, Getsinger (1985) described ten structural domains from stereographic projections of various structures, ten distinguishable metamorphic zones, and four ages of folding. Many of the quartz veins oecur as deformed lenses and boudins parallel to foliation, and probably formed by segregation from host rocks during early stages of deformation and metamorphism. Similar structural features occur in the Barker properties.

Forming the prominent, rocky cliffs north of Little River, the Bralco formation of Paleozoic age is a massive to thin bedded, light-coloured, coarsely crystalline, white to light grey and buff weathering marble. This probably belongs to the Cariboo terrane, but some geologists have placed it in the Barkerville terrane. Near Cominco's Mae mineral claims the marble is up to 500 m thick. Locally it contains siliceous dolomite and radiating needles of white tremolite. Layering is discontinuous and lensy, being marked by faint grey wisps and streaks. Truncation of some bedding features indicates transposition of layers along those bedding planes. The Bralco marble has a sharp conformable contact with an underlying, clastic sedimentary sequence of argillite, marble, and one prominent quartz sandstone layer up to 10 m thick of the Hadrynian Yankee Belle formation. Further southeast towards Maeford Lake, grey limestone of the Cunningham formation, and other similar undifferentiated beds, occur immediately above the Pleasant Valley thrust fault.

Two late, northeast-trending normal faults were projected by Struik across the Ace claims. They run southwest from the northwest end of Little River stock, and cross Barker Mountain. For convenience these have been named the GSC-1 and GSC-2 faults. They divide Doyle's float train into thirds. Between the two cross faults, rocks of the Cariboo terrane and the trace of the Pleasant Valley thrust are offset to the northeast. Given the dip, the sense of this offset requires that the block between the two normal faults is stratigraphically higher than the blocks to the northwest and southeast. If the two GSC faults are tension faults, their dips are away from each other, and the central block is a horst. Accordingly, strata in the block would belong lower in the stratigraphic section and would be slightly higher in metamorphic grade. Geophysical evidence gathered in 1996 strongly suggests disruption of stratigraphy in this horst-like manner, and similarly suggests southwest continuation of GSC2 fault, at least to the crest of Barker Mountain.

Another normal fault, similar to the two GSC faults, lies immediately west of the main showing at Cariboo Prospect, offsetting stratigraphy there. It trends southerly and offsets stratigraphy on the east side of the Ace West grid area. It is referred to as GSC-3 fault. A much larger fault of this same kind parallels Cariboo River valley, and accordingly is called the Cariboo River Fault.

The mineralization in some of the boulders from Doyle's float train has been compared to Besshi-type massive sulfides and particularly with mineralization at the former Goldstream mine north of Revelstoke, B.C., (Hoy and Preto, 1996). The widespread presence of 1-5% disseminated pyrite in felsic volcanic rocks and the ironstone ledges on Harvey's Creek also suggest the potential for volcanogenic massive sulfide targets. Of possible genetic interest is the abundance of amphibolite mapped by Struik on Barker Mtn, particularly south of the float train, and particularly in the 'uplifted' area, between the two GSC faults. A sill-like body of meta-diorite, or amphibolite, derived from metamorphosed volcanic rock, with traces of chalcopyrite and malachite, occurs in this area just above the base of the steep slope. It continues southeast, and is continuous with another exposure on the east side of Ishkloo Creek road and beyond to the cirque at the north face of Three Ladies Mountain.

The main targets on the Ace property include (1) gold-bearing stratabound massive sulfides, similar to that at Goldstream in the Kootenay terrane to the southwest, (2) early, deformed, gold-bearing quartz-sulfide veins in all rock types and associated pyritic replacement deposits in limestone, as at Wells and

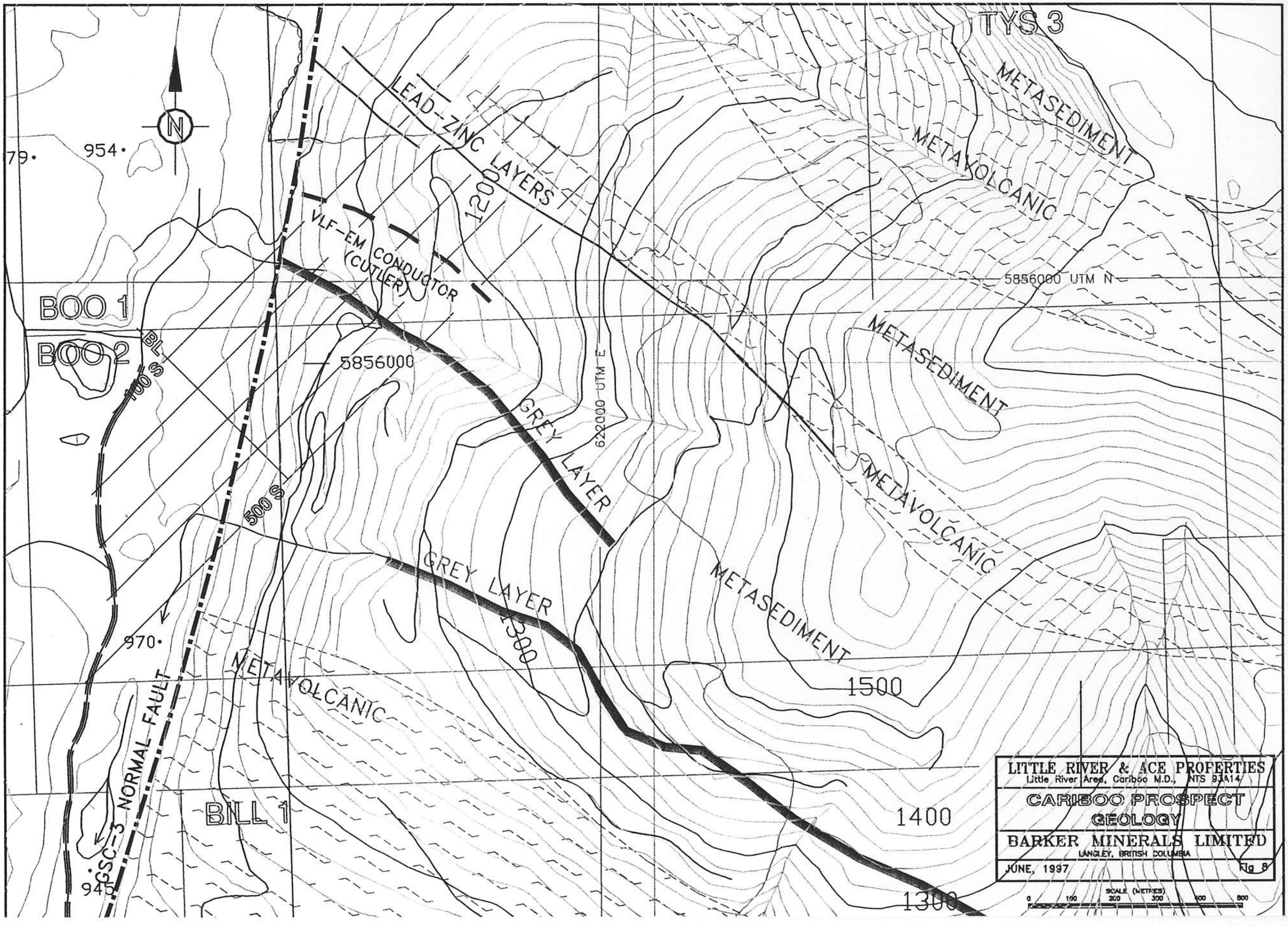
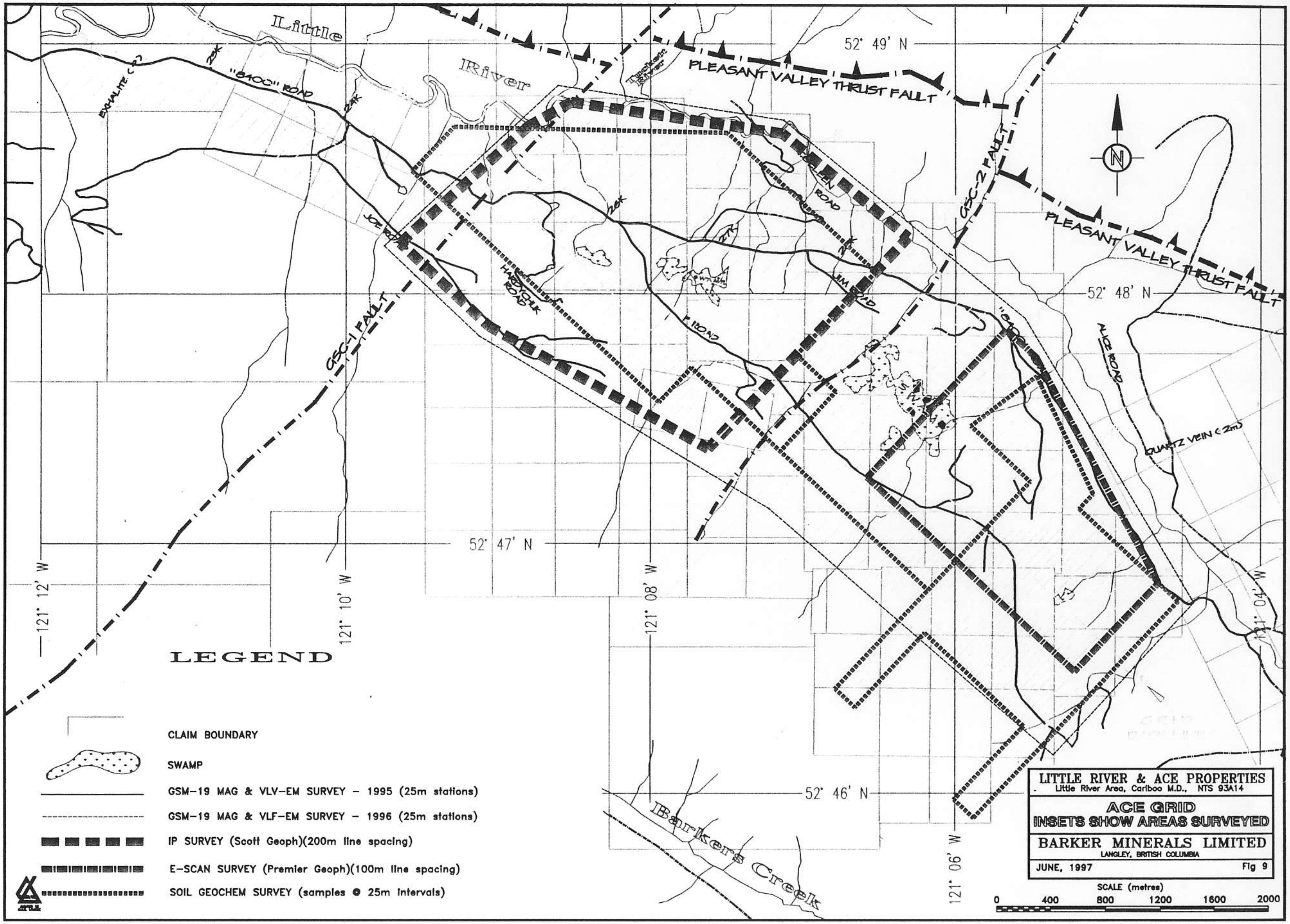


Fig. 8 Cariboo Prospect Geology

Fig. 9   Ace Grid – Insets Show Areas Surveyed



Barkerville, and (3) late northeast-trending quartz veins with gold and with anomalous values in lead, bismuth, selenium, and tellurium.

The lower two-thirds of the Barkerville Terrane contains interlayered, foliated, fine grained grey micaceous quartzite, brown quartz-rich biotite-muscovite schist, and lenses of amphibolite gneiss, all with minor carbonate, and minor calc-silicate strata. In a few places, green-grey hornblende biotite gneiss (after quartz diorite sills) makes up to 25% of the section. In the metamorphic aureole near the North Arm of Quesnel Lake, this part of the stratigraphic section hosts small masses of anatectic pegmatite. A number of assessment reports, covering small and scattered areas southeast of Cariboo Lake, describe carbonaceous rocks rich in iron sulfides, and suggest repetition of the upper-third stratigraphy by folding or faulting. From work in the Yanks Peak and Roundtop Mountain areas, Holland (1954) indicated that strata were isoclinally folded on both small and large scales, and suspected far greater repetition of beds than indicated in the literature at that time.

To the southeast along the Eureka thrust fault, the Slide Mountain block was obducted onto the Barkerville terrane and the Quesnel terrane was subducted. On the properties of Barker Minerals only thin fault slices of Slide Mountain rocks occur northeast of Spanish Lake. These include sheared ultramafic rock, serpentinite and amphibolite of the Crooked amphibolite, which are similar lithologically to those mapped to the southeast in the Crooked Lake area by Bloodgood (1988). Marine and sub-aerial volcanic rocks and derived sedimentary rocks of the Late Triassic Nicola group immediately west of the Eureka thrust help define this eastern portion of the Intermontaine Physiographic belt.

Recent olivine basalt flows and pyroclastic breccia deposits were formed when the Fraser stage ice was wasting away. Flows occur in the floors of two adjacent east-facing cirques at the head of Devoe Creek. They are up to 3 m thick, grey in colour, flat lying and with crude columnar jointing. Pillow structures with chilled glassy margins formed at the base of the flows against glacial clay. Distinctive inclusions up to 10 cm across are of massive, pale green olivine. A larger area of similar basalt occurs along the shore of Quesnel Lake, northeast of the mouth of Devoe Creek. The upper portion of this flow is 250 m above the lake, level with the top of an adjacent marginal moraine, and was impounded behind the moraine. North of Tasse Lake are a flow and a small conical pyroclastic breccia hill, the latter has a central depression that appears to have been a vent. These Recent flows correlate with similar flows of the Anaheim volcanic belt to the west, and with other similar ones near Clearwater Lake to the southeast.

4.0 1996 WORK PROGRAM

During 1996, Barker Minerals Ltd. did preliminary exploration work on widely separated parts of the peripheral claims. Detailed geochemistry, geophysics, and backhoe trenching were done on Doyle's float train and on other parts of the Ace property. Most of the work was done by contractors and a small amount was done by employees of Barker Minerals Ltd. Geophysical data was interpreted by Grant Hendrickson (1997).

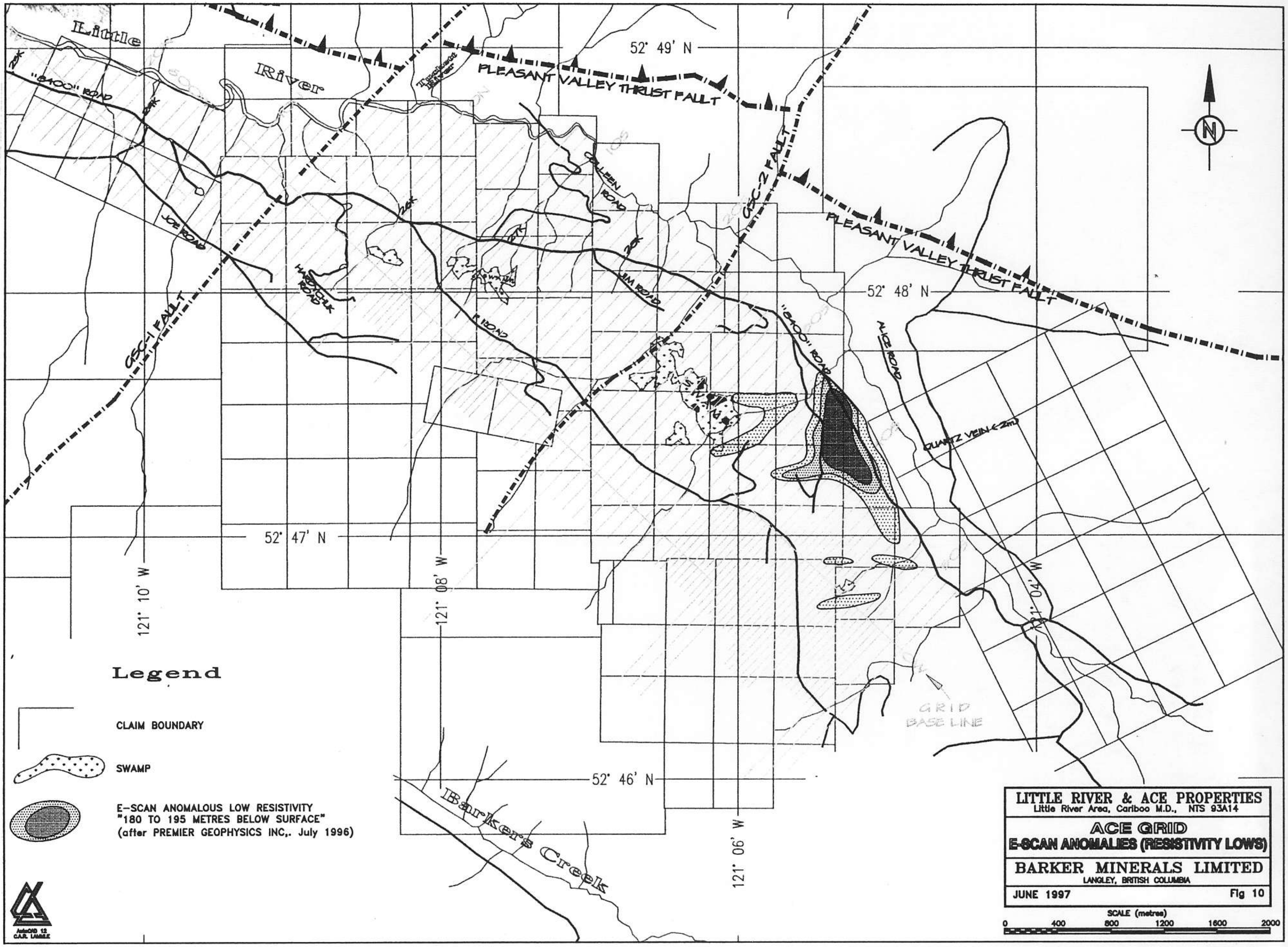


Fig. 10. Ace Grid – E-Scan Anomalies (Resistivity Lows)

4.1 Geological Mapping

Preliminary 1:20,000 scale mapping by Stephen Roach (1997) traversed several widely separated and scattered locations on the Little River Area properties. More detailed work was done in a few areas, including the Cariboo prospect (Figure 8). Very little geological mapping was done along logging roads on the Ace Group, partly because outcrop is sparse.

4.2 Grid Line Preparation

Amex Exploration Services from Kamloops prepared grid lines in the area and refurbishing some pre-existing lines (in the areas of the earlier induced polarization survey) which had been destroyed by winter logging. New work was done across swampy areas that could not be traversed during the summer season. The grid of the areas of the geophysical and geochemical surveys is shown in Figure 9. Much of the grids has not been corrected for deviation of angle of grid lines or distance along lines; this work will be done during the 1997 program by tying lines to main roads and the Little River, and by cutting additional cross lines.

4.3 E-Scan Resistivity Survey

An experimental "E-Scan" 3-dimensional resistivity survey was done by Premier Geophysics of Vancouver, B.C., on part of the Ace (Kloo) grid southeast from the GSC2 fault on lines spaced at 100 m (Shore, 1997). Work was done on the following claims: Ace 1-2, 4, 9, 11-27, 29-38, 40, 106-107, 109, E1, E2, E3, E4, and Abracad 2 (Figure 10). The survey outlines a prominent near-surface resistivity low centred at 10E-36S which extends to depth. The E-scan survey lacks the resolution necessary to define small, but economically interesting gold-bearing quartz-sulfide veins, and also has the deficiency of not measuring I.P. Thus, it should be followed up by a conventional I.P.-resistivity survey.

4.4 I.P.-Resistivity Survey

A test I.P. Survey was conducted on the central part of Doyle's float train by Scott Geophysics of Vancouver, B.C., to improve definition of geophysical targets outlined by the 1995 magnetic and VLF-EM studies (Scott, 1996). Odd numbered lines from Ace 700N through 1900S were surveyed. The summary report describes logistics and shows pseudo-sections for depths of 25, 50, 75, 100 and 125 m.

Figures 11 and 12 show plan maps of the chargeability and resistivity anomalies, respectively, for a diople spacing of n = 2. Several shallow, discrete targets have been outlined, mainly trending parallel to the regional stratigraphy. Many appear to have a grid-west dip (which is unusual since it is opposite to that of the major foliation in the host rocks; it may reflect original bedding in an area of strong folding. The strong resistivity low along the axis of the area of high chargeability may be due to a major fault, possibly containing graphite. Large areas of moderately high chargeability and resistivity along Doyle's float train probably are due to disseminated sulfides rather than graphite. The data were analyzed by ProbPlot, in which the data were subdivided into three overlapping populations; threshold values were chosen arbitrarily near the midpoint of the overlapping portions of the data. The lowest of the three populations, considered to be background, accounts for about 5%, of the data. Table 4 shows the statistical parameters of the survey.

Table 1. Ace Property I.P. Results (ProbPlot)

Table 1.1 Chargeability (mv/V) Statistics

	n=1	n=2	n=3	n=4	n=5
no. of readings	1040	1027	1013	1000	986
minimum	0.2	1	1.7	1.7	2.6
maximum	84.7	115.4	234.4	170.4	123.1
average	18.99	22.80	24.55	25.51	26.21
stand dev	13.04	13.4	14.09	12.77	11.96
variance	170	179.4	198.5	163.1	143.1
Pop 1 range	3% 0.7- 3.5	3% 1.3- 3.4	10% 2.3-11	7% 3.0-10	6% 3.9-11
Threshold 7 mv/V					
Pop 2 range	50% 2.7-24	47% 3.8-31	35% 8 –26	38% 8 –29	39% 9 -30
Threshold 25 mv/V					
Pop 3 range	47% 17-51	50% 21-52	55% 21-52	55% 22-51	55% 23-51

Table 1.2 Resistivity (ohm-m) Statistics

	n=1	n=2	n=3	n=4	n=5
no. of rdgs.	1040	1027	1013	1000	986
minimum	7.8	3.8	5.1	5	4.5
maximum	9572	5663	5288	5465	5539
average	1385	1302	1268.9	894.1	1317.8
stand dev	1017	859.5	826.2	28.95	887.5
variance	1.0x106	7.4x105	6.8x105	8.0x105	7.8x105
Pop1 range	1% 7-119	2% 4-70	2% 5-60	2% 4-60	3% 5-64
Threshold 60 ohm-m					
Pop2 range	10% 79-525	21% 67-1078	20% 60-911	23% 57-1147	22% 56- 999
Threshold 800 ohm-m					
Pop3 range	89% 439-3889	77% 619-3374	78% 611-3283	75% 693-3466	75% 674-3462

Fig. 11 Ace Grid – IP Chargeability Anomalies (mv/V)

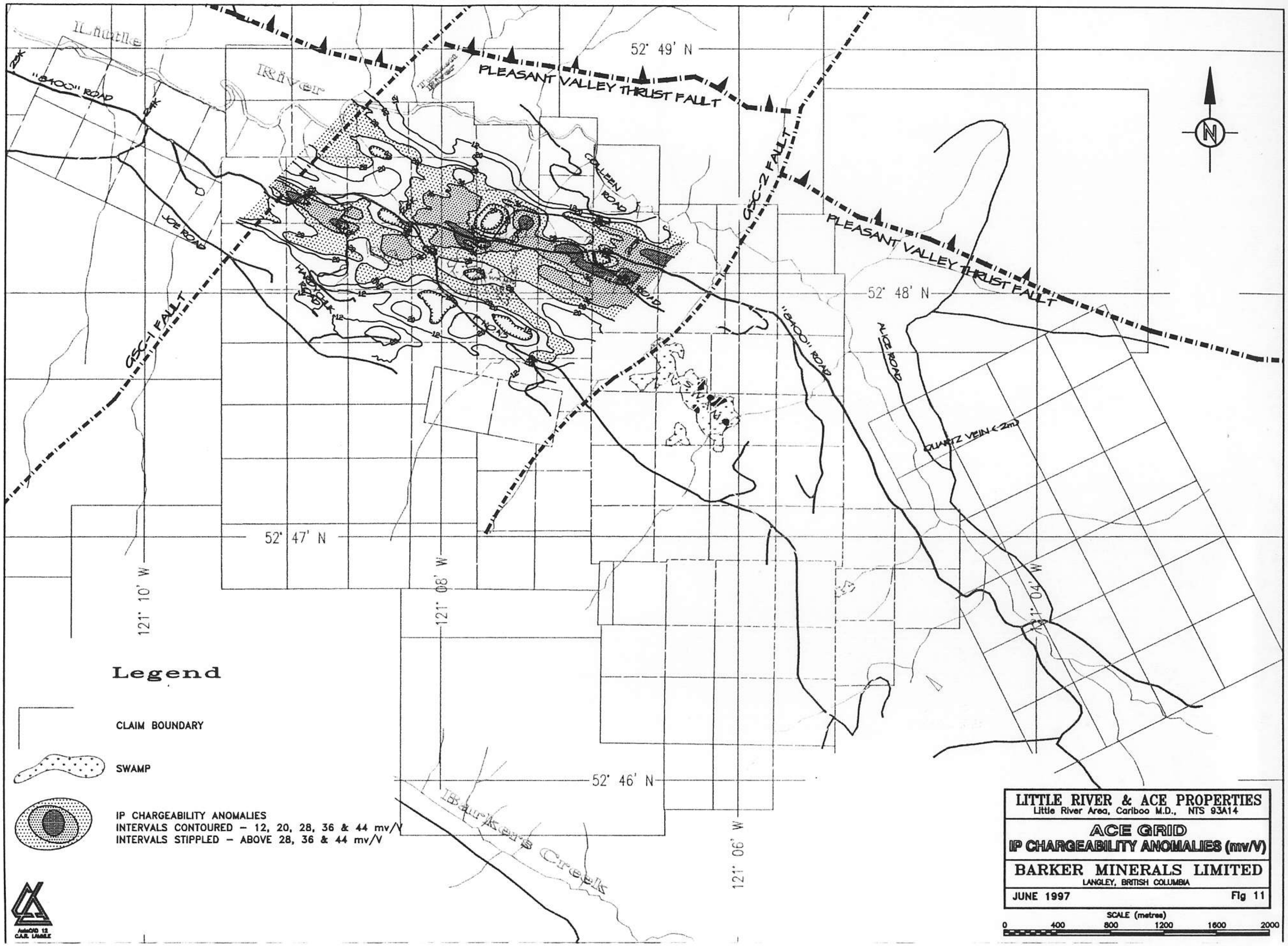
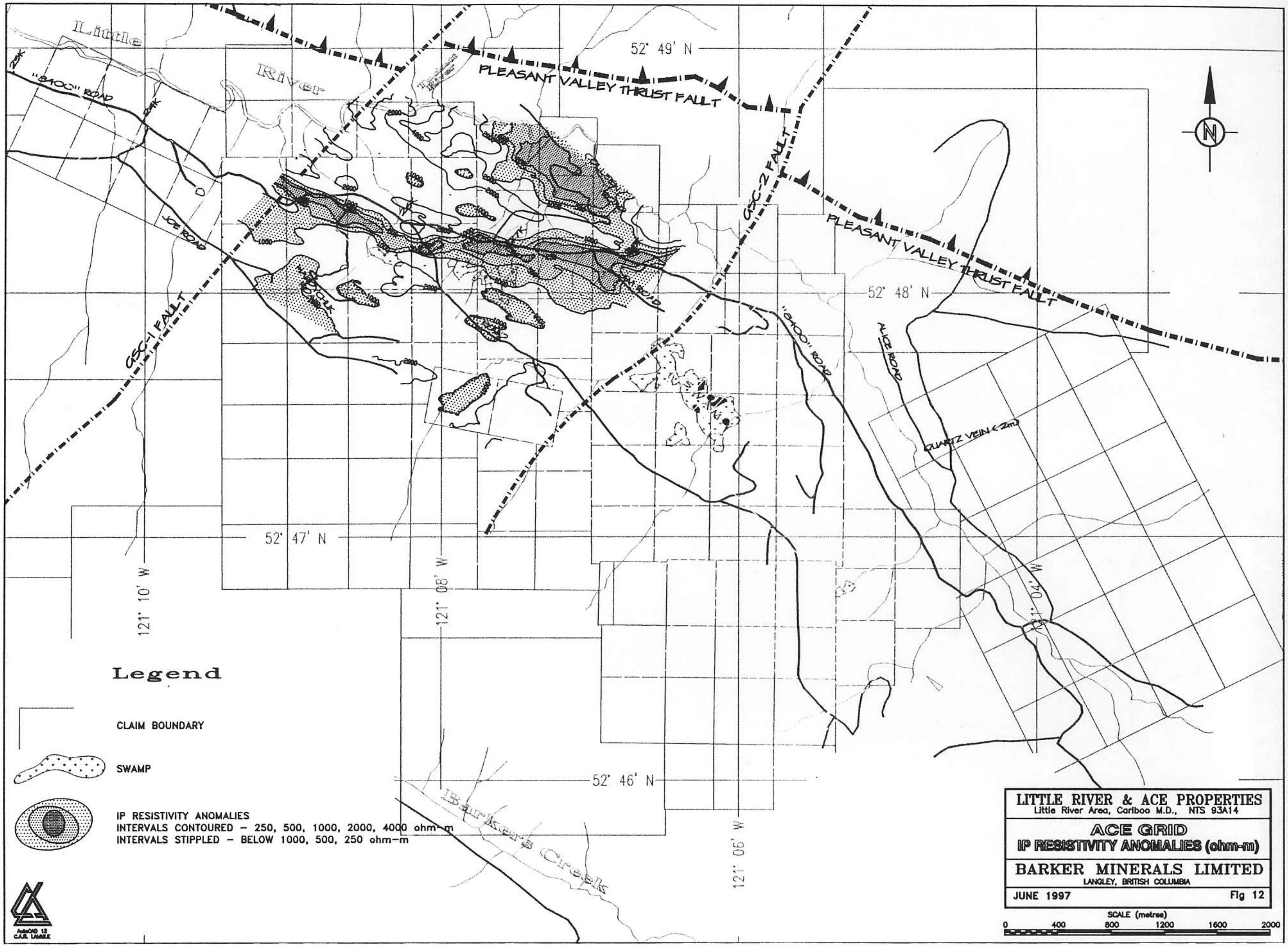


Fig. 12 Ace Grid – IP Resistivity Anomalies (ohm-m)



4.5 Magnetometer and VLF-EM Surveys

4.5.1 Ace Grid

Results of the 1995 and 1996 GSM-19 magnetometer surveys are shown in Figures 13a and 13b, respectively. The survey defined several, narrow, linear, near-surface anomalies associated with areas of high chargeability; these may represent quartz-sulfide (pyrrhotite) veins. Some magnetic anomalies occur in a circular zone about a magnetic low in Ace 86 in the central part of the property. This low coincides with anomalous values in gold, arsenic, and boron in soil samples.

Small magnetic dipoles typical of shallow targets are concentrated in a narrow zone along the northeast margin of Doyle's float train. Many of the dipoles have lows mostly on the north side of highs, but three or four scattered ones have the opposite orientation. Northeast of Unlikely 2, a few small dipoles occur near a single-line magnetic low of very deep relief (Ace-40 Black Hole anomaly), and a few are across the GSC-2 fault. The Ace-40 Black Hole anomaly may reflect a lens of limestone, which is exposed locally along a spur off the F road.

The southeast half of the Ace property is characterized by scattered small magnetic dipoles, including some in swamps which have lower intensities than those away form swamps. Most of these anomalies are south of the float train. Many of these dipoles also have lows on north side of highs. The strongest magnetic anomalies are in the uplifted block between the GSC-1 and GSC-2 faults. Moderate magnetic anomalies occur in the Ace 19 area.

VLF-EM conductors are shown on Figure 14. The VLF-EM surveys have been problematic due to low and intermittent signal levels and poor transmitter orientation. A definitive analysis would require mathematical filtering techniques. VLF-EM linear trends of crossovers define three conductors parallel to stratigraphy, one crossing trench 96-01, one in the northern part of Ace 61, roughly on strike with that near trench 96-01, and the third just north of test pit T-24 on the southwest corner of Ace 84. Three other shorter, sub-parallel conductors include one at the west end across Ace 63, and two at the east end along the northeast fringe of float train. The northwest area is characterized by slightly larger, more continuous, higher intensity VLF-EM anomalies particularly along the northeast margin of the float train, paralleling the trend of foliation. These may be caused by quartz-sulfide veins or graphitic strata or faults. This area has a broad low-order magnetic high parallel to stratigraphy, which should be tested as a volcanogenic massive sulfide target. Overlying soils contain moderately anomalous zinc.

Three arcuate VLF-EM trends of crossovers are present. Two come from near the Little River, one from a 2-metre quartz vein in the river in claim LED 14, and the other extending from Ace 22 under the Ace 36 swamp to the GSC-2 fault. A third parallel linear trend is near the amphibolite on the north slope of Barker Mountain.

A structural discontinuity indicated by offset in interpreted VLF-EM conductors, and a similar but weaker discontinuity in magnetic contours prompted extension of the GSC-2 fault southeast along a linear creek up the north side of Barker Mountain. This fault cuts the survey area in two, with the northwest half containing the widest portion of Doyle's float train.

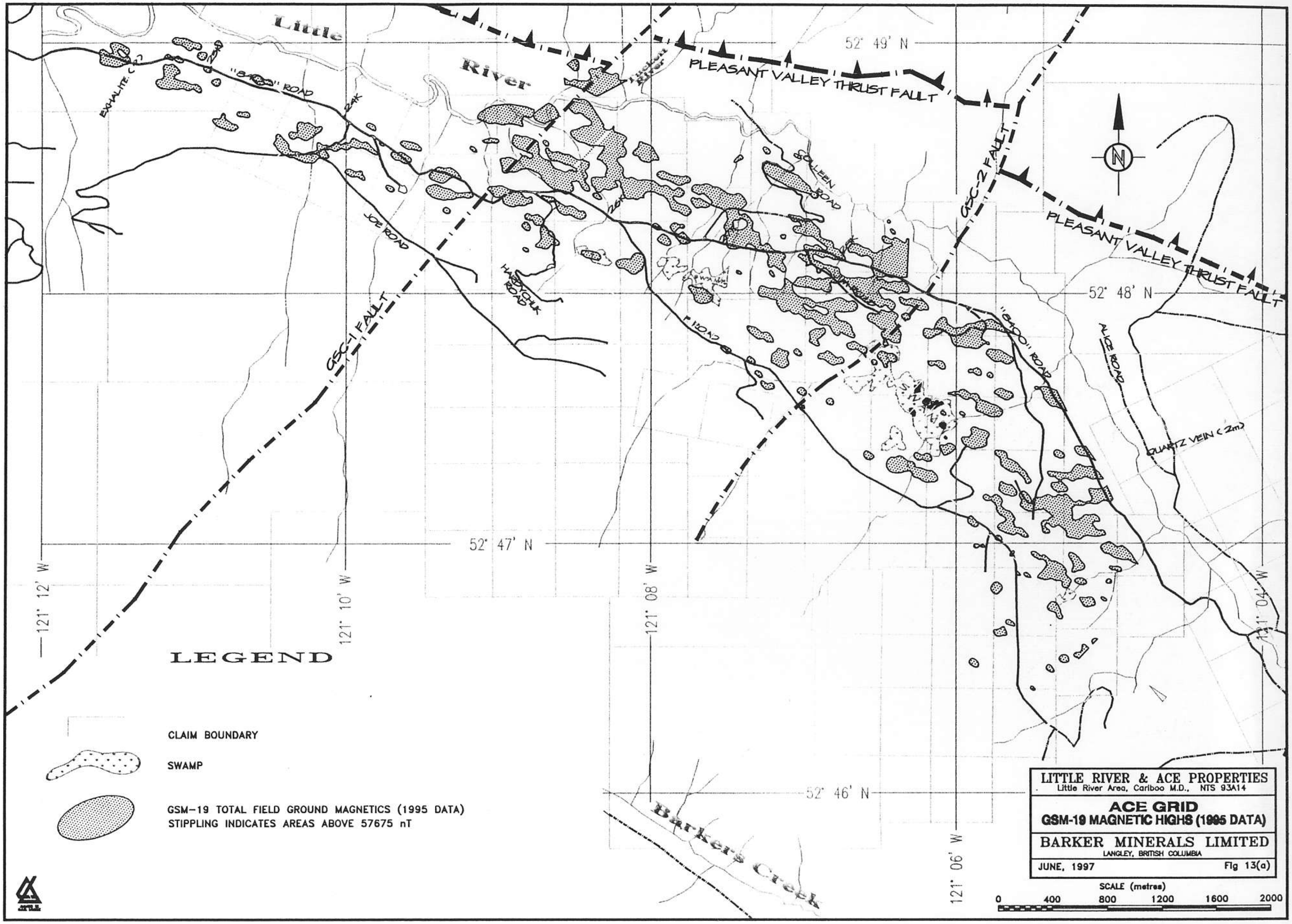


Fig. 13(a) Ace Grid – GSM-19 Magnetic Highs (1995 Data)

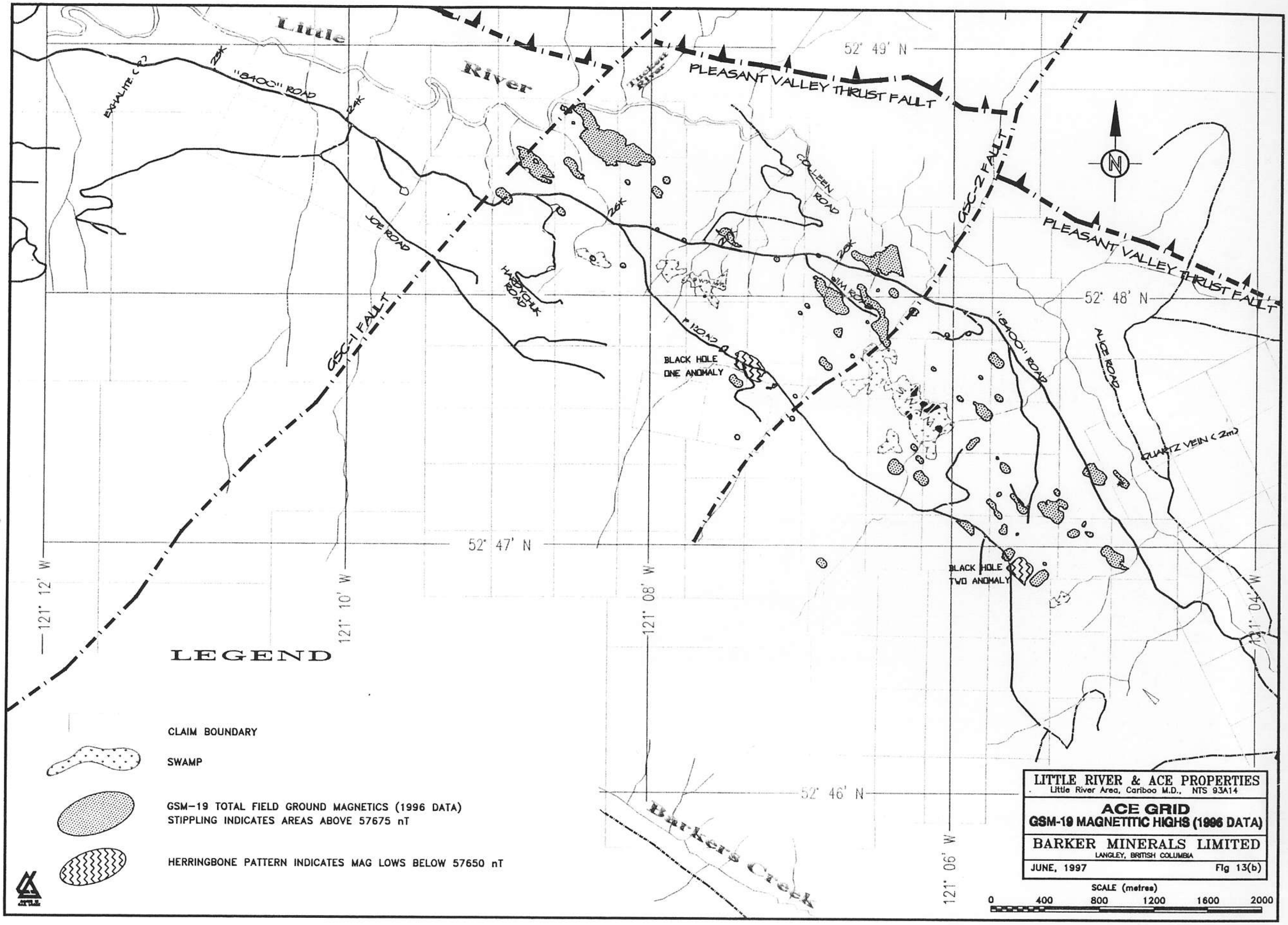


Fig. 13(b) Ace Grid – GSM-19 Magnetic Highs (1996 Data)

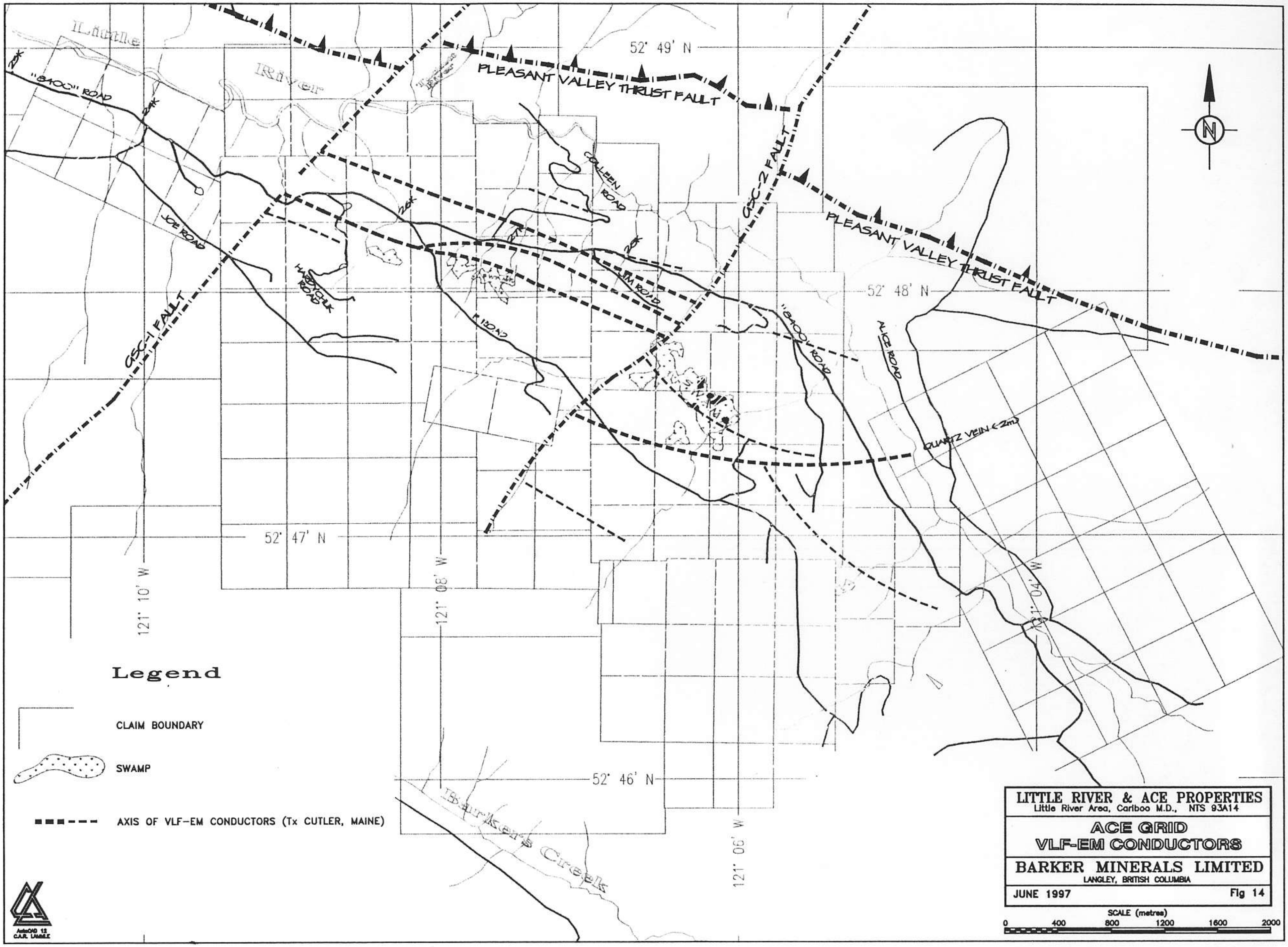


Fig. 14 Ace Grid – VLF-EM (Cutler) Conductors

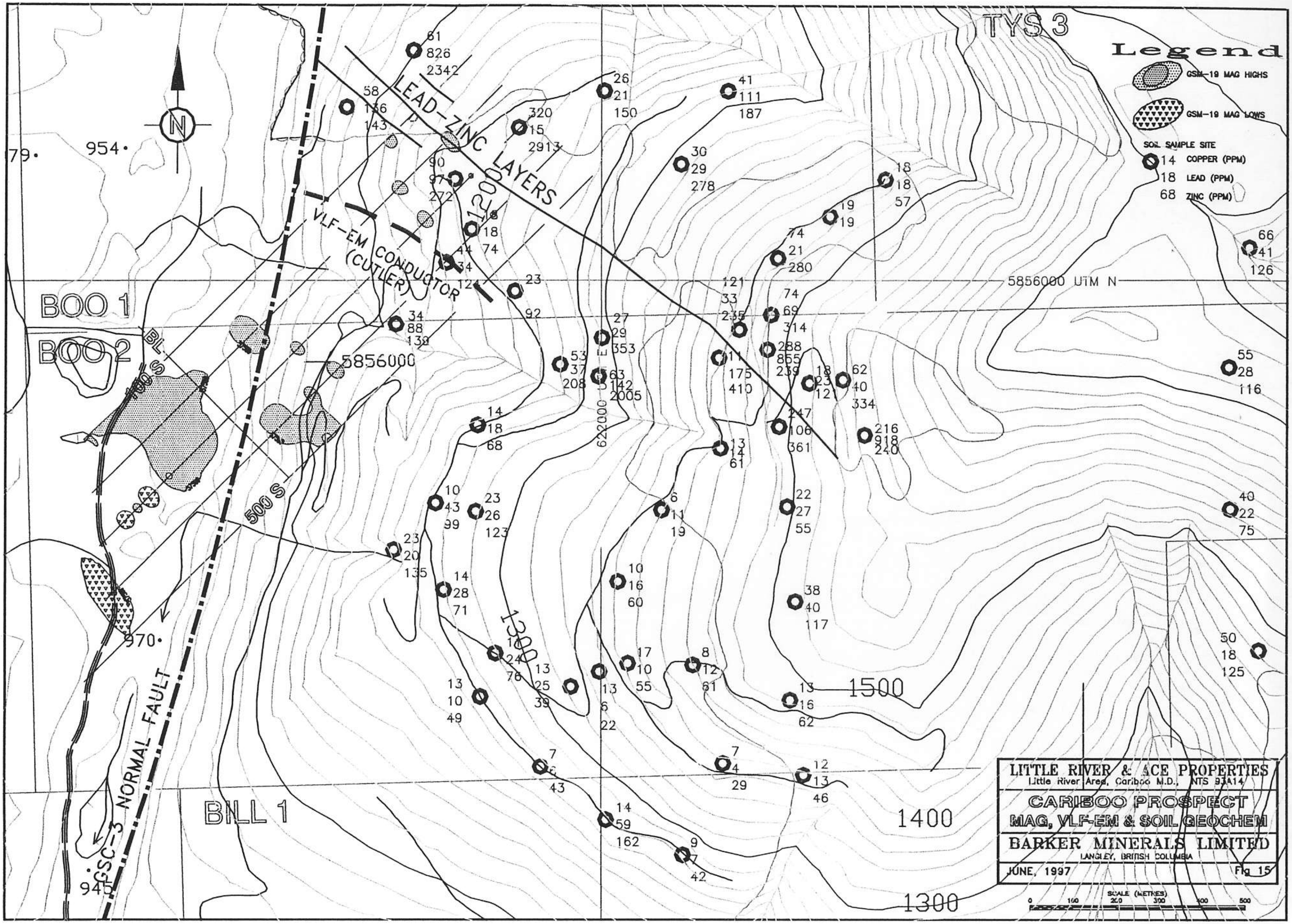


Fig. 15 Cariboo Prospect – Mag, VLF-EM & Soil Anomalies\

4.5.2 Cariboo (Maybe) Grid

Results are shown in Figure 15. A strong linear trend of VLF-EM crossovers lies along an inferred fault defined at Cariboo Prospect, 200 m southwest of and parallel to the stratabound Zn-Pb mineralization. The VLF-EM grid survey needs to be extended to check for possible extensions of the Pb-Zn stratabound mineralization. The magnetic survey shows diffuse to sharply defined, lensy anomalies subparallel to stratigraphy.

4.5.3 Ace West Grid

Results are shown in Figure 16. Two linear magnetic highs parallel to the trend of stratigraphy correlate with disseminated magnetite observed in phyllitic quartzite in several outcrops. The anomalies were not detected by the government airborne magnetometer survey, indicating that they are small and/or shallow. Extension of the survey to the southeast could help define stratigraphic, and possibly structural trends. No VLF-EM crossovers were found. Preliminary road soil studies show local anomalies in zinc. As mentioned earlier, a north trending normal fault, GSC-3, offsets stratigraphy east of the Ace West grid area.

4.5.4 Road Traverses

Magnetometer and VLF-EM surveys were done on widely spaced traverses along Badger, Seller Creek, Black Bear Creek, and Bruce Claims roads in the peripheral claims by Amex Exploration Services of Kamloops. A few small magnetic anomalies are present in each area. Two strong VLF-EM crossovers occur on Line 100 on Badger Road, and weaker ones occur on the Bruce Claims road. Follow-up work should be made of the small magnetic anomalies and the VLF-EM crossovers by running 200-m-long traverses on all sides of the anomalous stations. Outcrops in and near the anomalous areas should be mapped and sampled.

4.6 Soil Geochemistry

Analytical techniques are described in Appendix 2. These include ICP, Ultratrace ICP, Hydride volatle elements, and ICP whole-rock analysis.

4.6.1 Ace Grid

From the Ace grid, 600 soil samples were taken from the top of the "B" soil horizon, or as close to that horizon as could be determined. These filled in gaps in the 1995 soil survey. The soil profile consists of the forest floor, a black humus layer (A horizon), a thin whitish leached layer (= volcanic ash?), red mineral soil (B-horizon), and a rocky mixture of mineral soil and bedrock debris (C horizon). At higher elevations where the soil profile was developed very poorly, a mixed B-C horizon sample was taken. In swampy areas, the organic-rich A horizon may be over 1m thick, and such areas were not sampled. In general, the top of the B horizon was reached at depths between 0.2 and 0.7 m. Samples were analyzed by Acme Analytical Laboratories in Vancouver. Figures 17a-f show the results of the 1995 and 1996 soil studies for Au, Ag, Cu, Zn, Pb, and Bi. Threshold values used (and shown) on these maps are as follows: Au - 20 ppb, Ag - 500 ppb, Cu - 50 ppm, Zn - 100 ppm, Pb - 25 ppm, and Bi - 12 ppm. Earlier samples were analyzed by the normal ICP method, and later samples by the ultratrace ICP method; it was difficult to plot these on the same maps because of the much different detection limits of the two methods. Thus, the threshold values reflect those of the earlier samples.

The 1996 results compliment the patterns in the 1995 survey, maps, and show more extensive Pb and Zn anomalies along the northern margin of Doyle's float train between the GSC-1 and GSC-2 faults. Bismuth is most abundant near the switchback on Colleen Road (near the border of Ace 82 and Ace 84). This area is of significant economic interest because it contains red, rusty soils, mineralized float with much iron sulfides, and mineralized galena-bearing float that carries values in gold up to several grams per tonne. The anomalous bismuth probably is associated with this mineralization. In 1995, moderately anomalous copper was found on the lower slopes of Mount Barker, and an arsenic anomaly centred on that portion of the float train is refined somewhat, but not added to materially.

4.6.2 Cariboo Zn-Pb Anomaly

As would be expected, abundant samples anomalous in Zn-Pb and fewer ones with anomalous Cu are dispersed below the known Zn-Pb mineralization at the Cariboo prospect,. Most are on the Boo and adjoining claims but a trend persists to the southeast along stratigraphy to the Aubar 3 and Aubar 4 claims. This zone is part of a northwest-trending zone of slightly anomalous Zn-Pb that runs across the property from Cominco's Mae property to beyond the Cariboo prospect. A few scattered samples, well away from this trend, have weakly or moderately anomalous values in one or more of Pb, Zn or Cu. Because of the wide sample interval, these single-station highs may have economic significanee, and additional samples should be taken around them.

Slightly anomalous Zn values occur on the eastern half of Chris 5, and two of these samples also contain anomalous Pb and Cu. Three separated samples contain gold values from 25 to 40 ppb, one on each of the Aubar 3, Aubar 4 and Chris claims. Anomalous bismuth (1 to 4 ppm) was detected in one sample on each of the Led, Chris 1 and Chris 5 claims. These areas warrant additional geological and geochemical investigation.

Clusters of a few samples with slightly anomalous values of silver (>0.7ppm) occur in three areas: on the Cariboo claim (reflecting the known mineralization); on Aubar 5/Aubar 7 claims; and on the Chris 5 claim. These low levels of silver merit follow-up only if correlated with anomalous amounts of other metals in the same general area.

4.6.3 Reconnaissance roadside soil geochemistry

Reconnaissance roadside soil geochemistry was done by MinConsult of Vernon, B.C. Samples were collected at roughly 200-metre spacing along roads in a number of widely separated parts of the peripheral property. Control in the field was from 1:20,000 forest interim maps showing logging roads. Samples were analyzed by Acme Analytical Laboratories of Vancouver using the conventional 30 element Inductively Coupled Plasma (ICP) method along with wet geochemical (not fire assay) analyses for gold. Acme routinely runs duplicate and control samples for quality control, and to enable clients to judge its work.

Results are shown in Figure 18. Analysis by the ProbPlot computer program (Stanley, 1987, and Sinclair, 1981) shows threshold values and population partitions for the common metals, for the 1996 road soil samples and the published open file BCRGSS stream-sediment data for NTS sheets 93A and 93H (Figure 20). Anomalies are in the order of 1.5 times threshold values. The low intensities of soil anomaHes (normally 5-10 times threshold values) are because most samples are from areas with thick overburden containing impermeable blue clay.

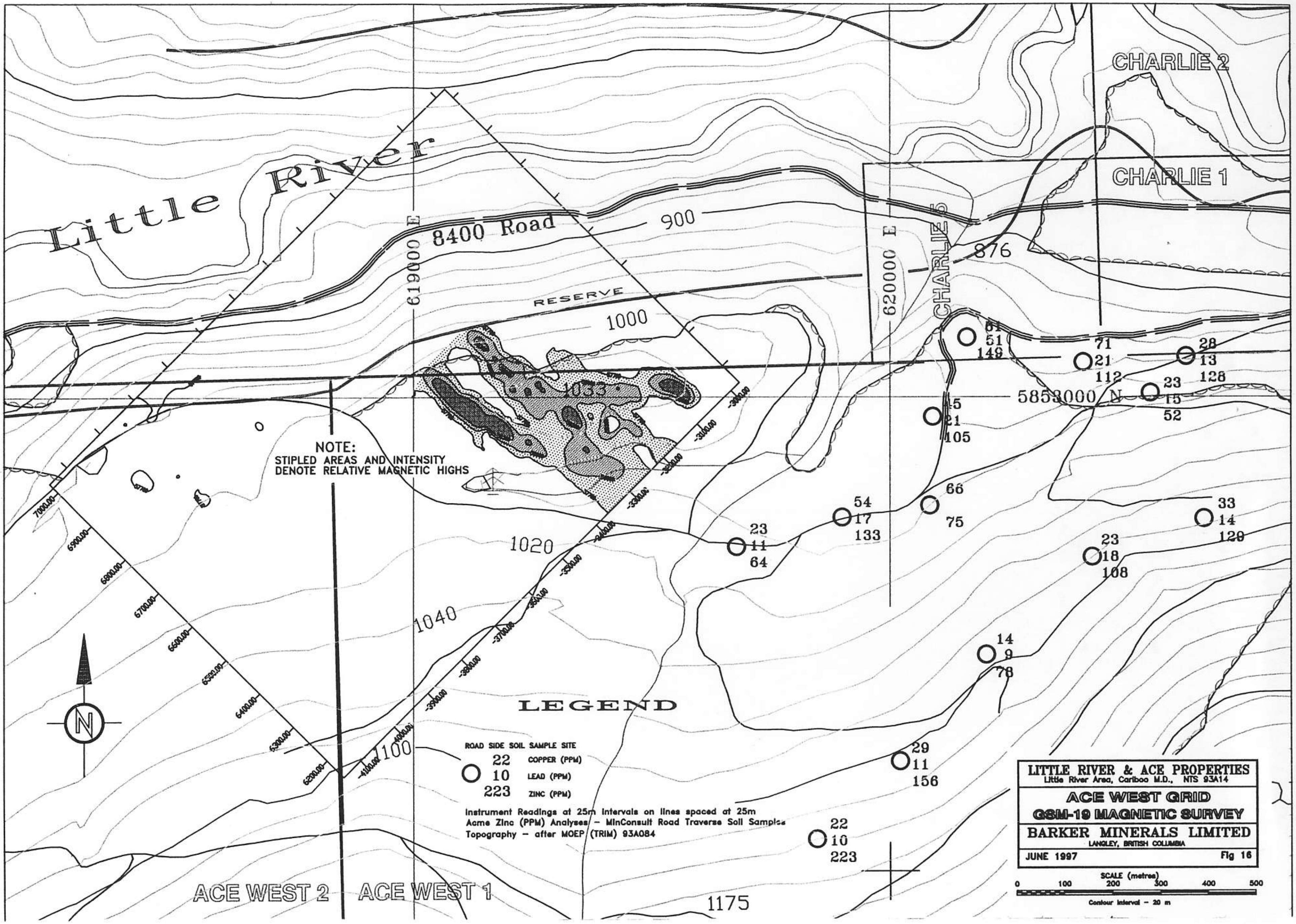


Fig. 16 Ace West Grid – GSM-19 Magnetic Survey

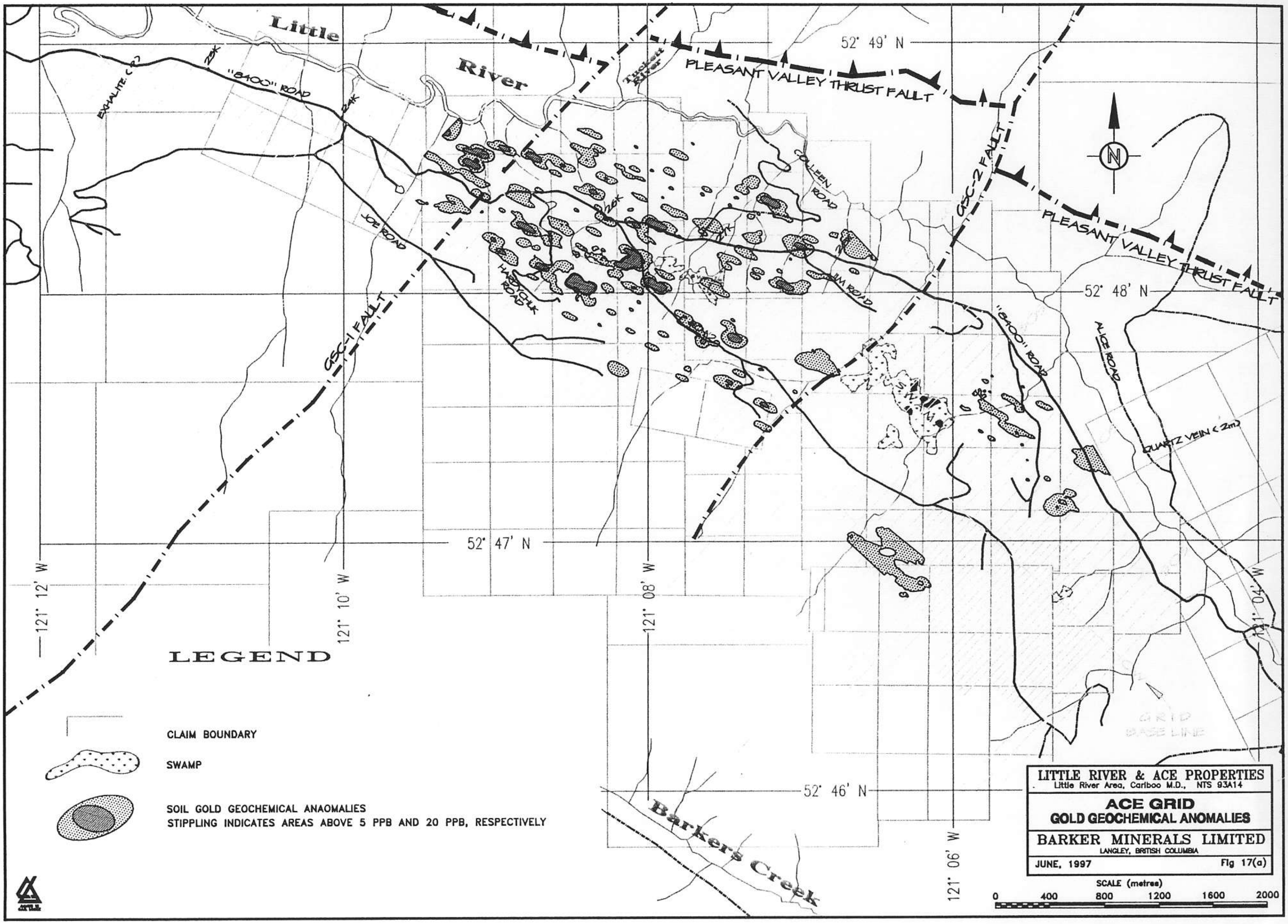


Fig. 17(a) Ace Grid – Gold Geochemical Anomalies

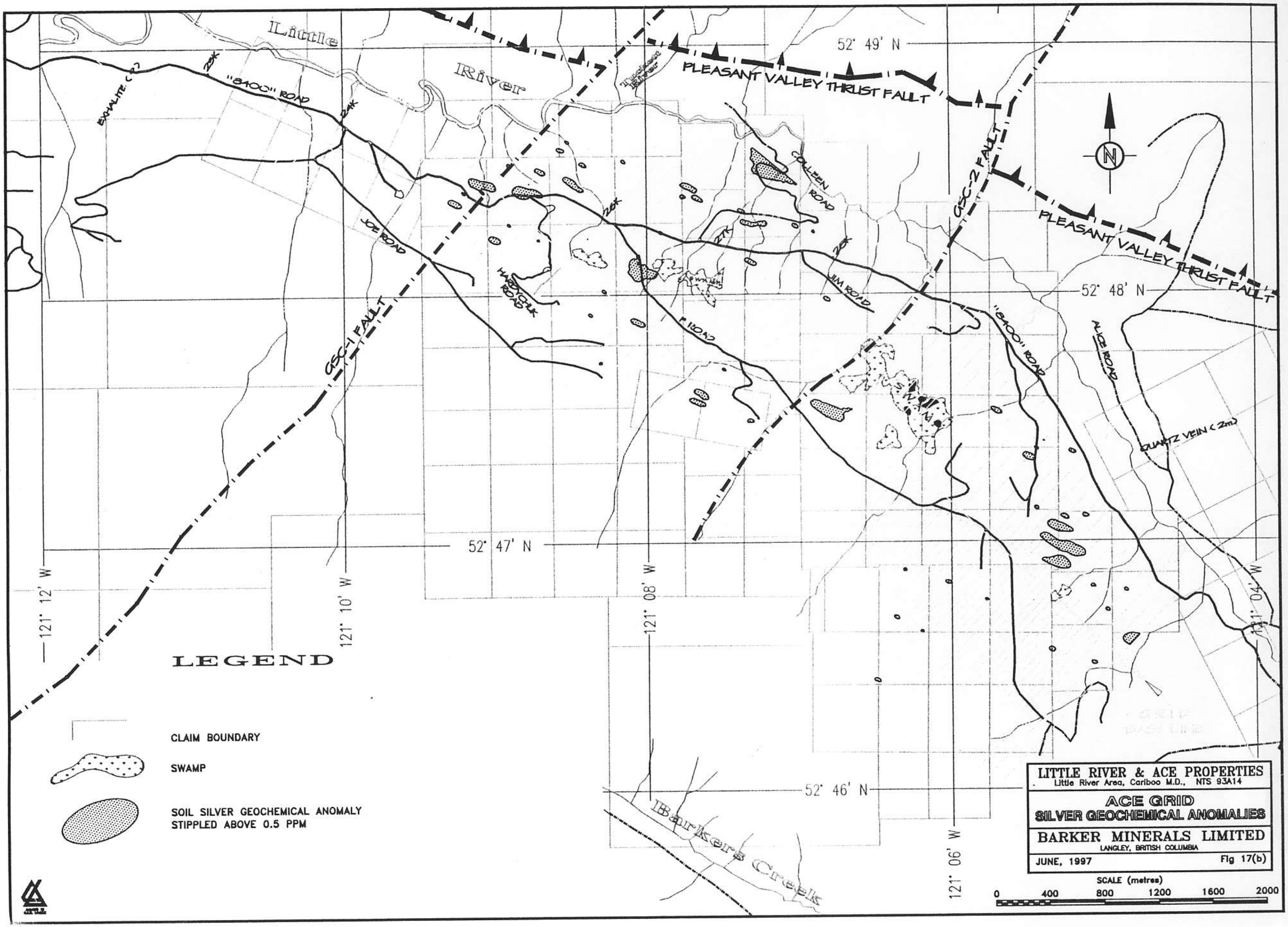
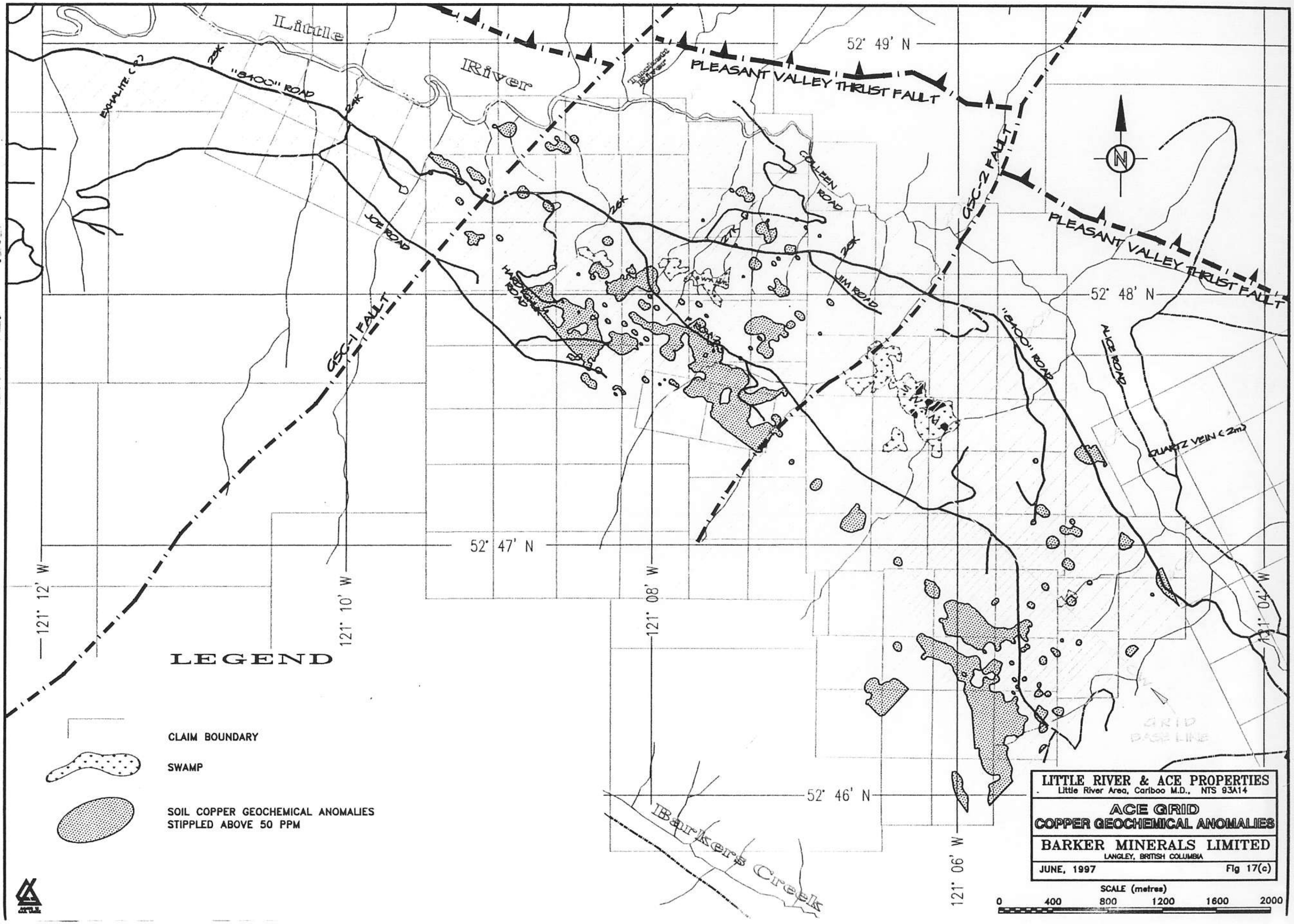


Fig. 17(b) Ace Grid – Silver Geochemical Anomalies

Fig. 17(c) Ace Grid – Copper Geochemical Anomalies



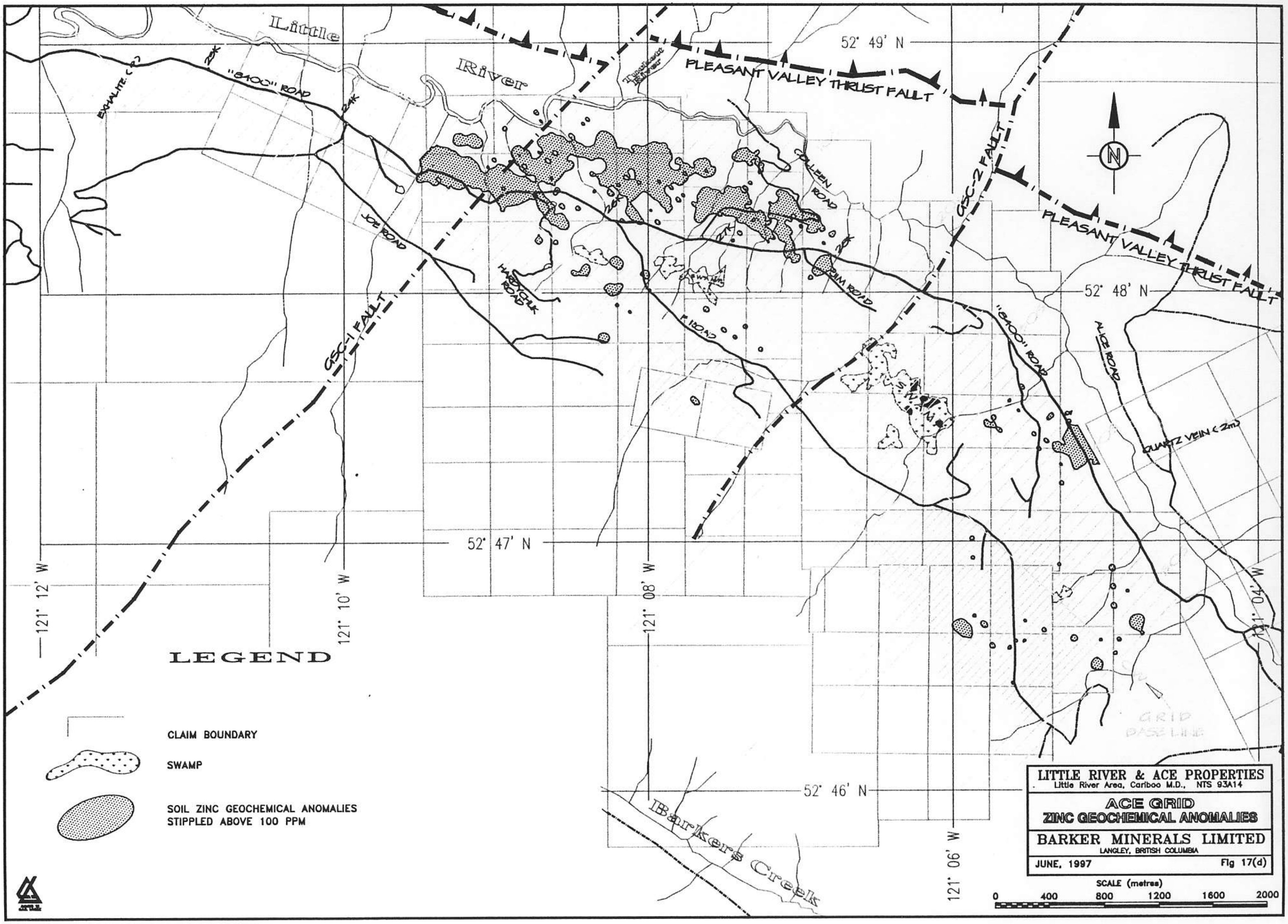


Fig. 17(d). Ace Grid – Zinc Geochemical Anomalies

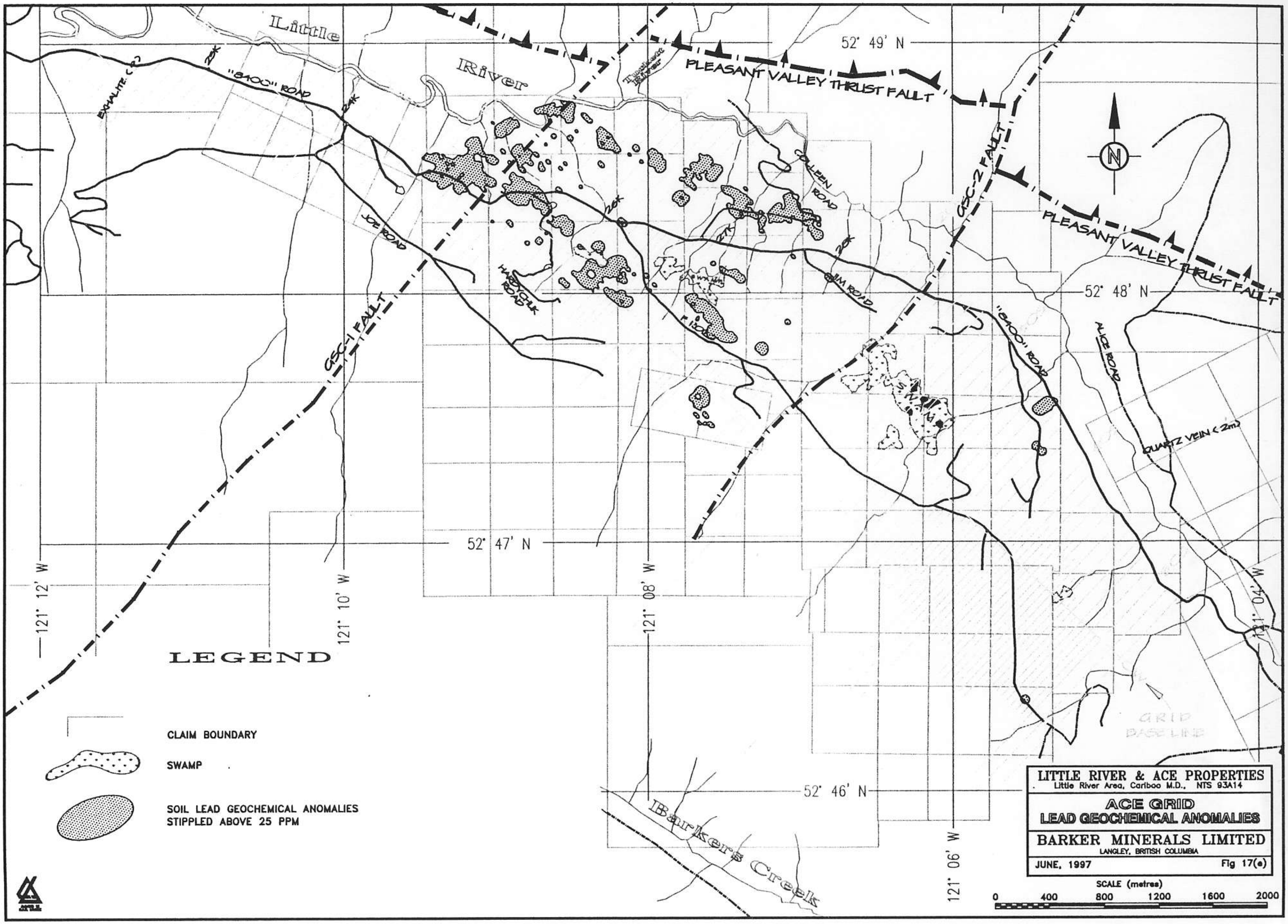


Fig. 17(e) Ace Grid – Lead Geochemical Anomalies

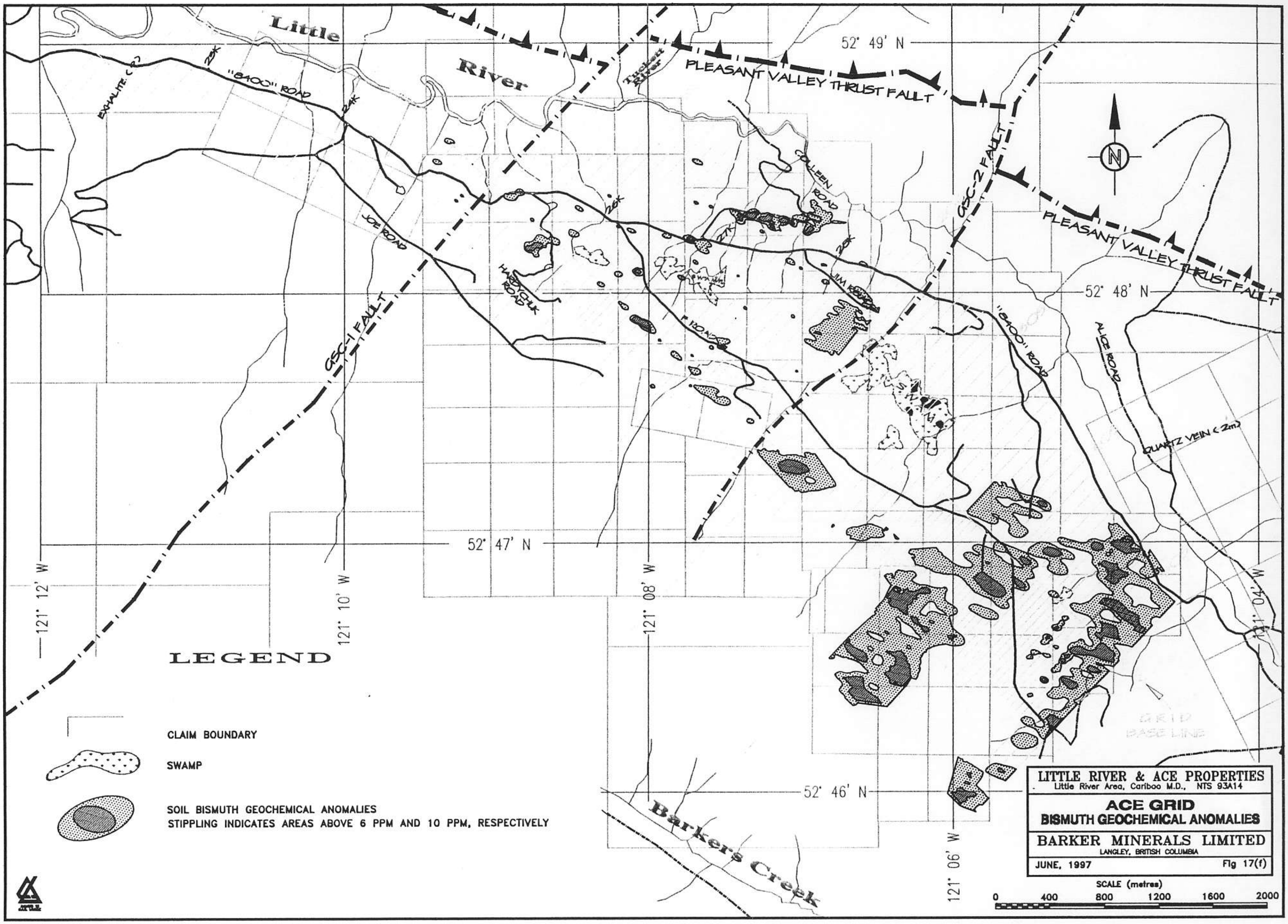


Fig. 17(f) Ace Grid – Bismuth Geochemical Anomalies

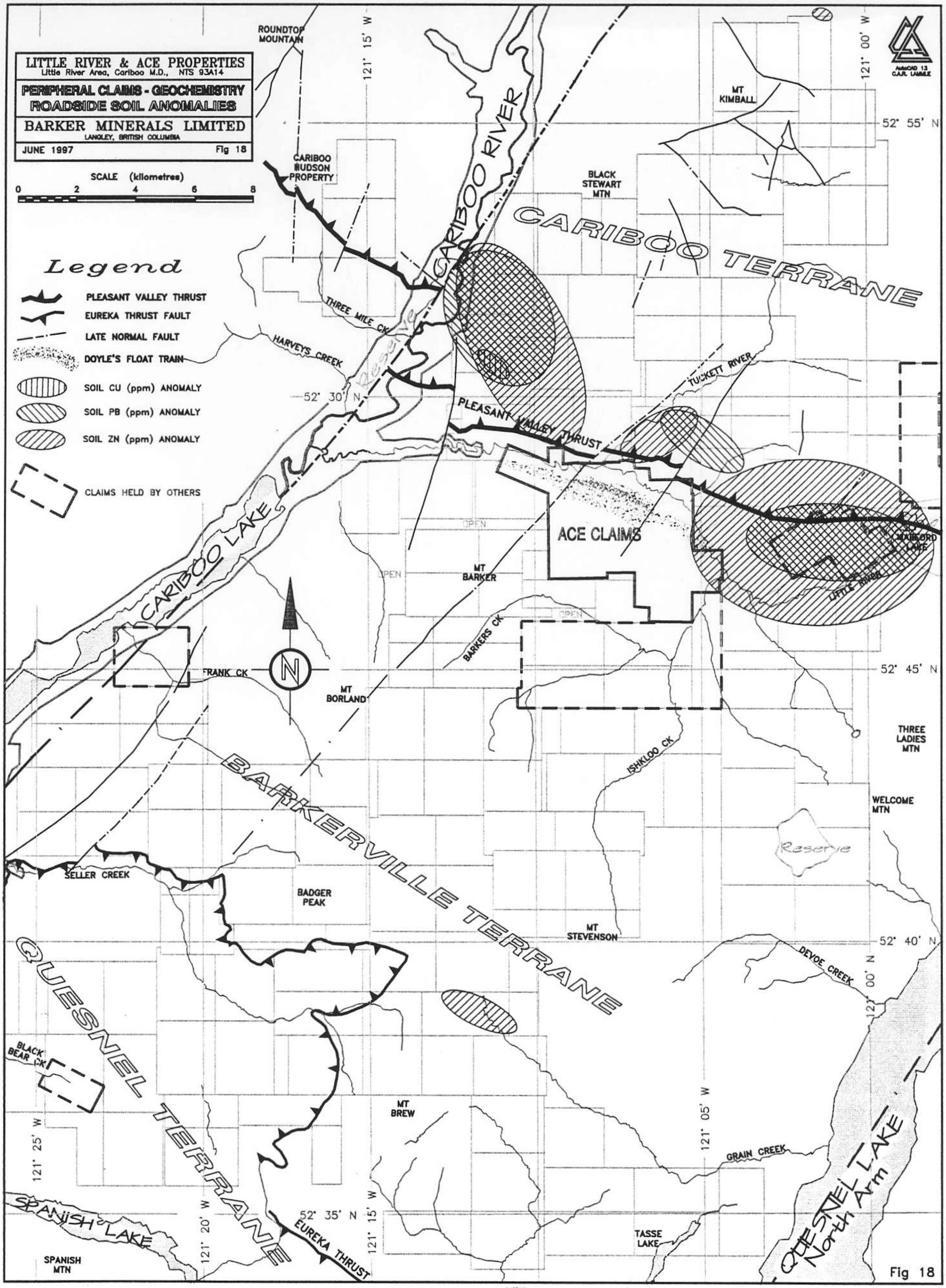


Fig. 18 Peripheral Claims – Geochemistry, Roadside Soil Anomalies

4.7 Ace Grid - Trenches

During October, 1996, preliminary excavator/backhoe trenching in and near Doyle's float train was done by Rylant Construction, Princeton, B.C. Material from the forest floor and humus were stockpiled on one side of the trench, and mineral soil, clay and till were stockpiled on the opposite side of the trench, to facilitate later reclamation. Thirty-six trenches totalling 260 m were dug, mainly along ditches and on landings (Figure 19). The average depth was 4 m, and a few trenches reached 5.5 m in depth. After sampling, deeper trenches were wholly or partly backfilled to obviate dangerous condition that might affect wildlife.

Trenching exposed bedrock at scattered points over the central part of the float train. Acme Analytical Laboratories analyzed 107 grab specimens of host rocks and mineralized zones by ICP, whole-rock, and hydride methods. Gold values in four trenches are anomalous. Results show anomalous gold values in four trenches. In Trench 30 (Ace grid 375W; 1600S) near "F" road, two samples contain 1065 ppb and 1386 ppb Au. In Trench A (825E; 1350S) at the upper switch back on Colleen Road, specimens of two siliceous rocks contain 296 ppb and 77 ppb Au. In Trench G (475W; 200N) near the helipad on Hardychuk Road, two samples contain 213 ppb and 50 ppb Au. In Trench C (also numbered 14) (750E; 1250S), just uphill along Colleen Road from Trench A, a sample contains 40 ppb Au. The values of gold greater than trace are correlated positively with Cu, Pb, Fe, and SiO_2, and to a lesser degree with As, Bi, and Hg. A negative correlation exists between Au and Zn.

Trenching at Ace grid 6+00W; 0+30N, on Ace 63 mineral claim, showed that a large block, previously named "Galena Rock" is bedrock. Scattered showings elsewhere contain minor chalcopyrite and malachite. Sphalerite may be difficult to recognize in the field; colourless and pale green varieties having been described in reports on Cominco's Mae claims. Another large rock, named "Frothy Quartz Rock", at Ace grid 6+70W; 0+40N, also on Ace 63 mineral claim, was shown by trenching to be float. This sample contains 2 g/t Au.

4.8 Thin Section Petrography

During November 1996, the author, working for Vancouver Petrographics Ltd, Langley, B.C., did thin section petrographic work on rock samples from trenches on the Ace property (Payne, 1996). This work defined the following main rock types in the trenches:

1. metamorphosed quartz sandstone, impure quartz sandstone (quartz, quartz-muscovite)
2. metamorphosed, impure arkosic sandstone (quartz-plagioclase-muscovite)
3. muscovite/quartz schist (mudstone-siltstone), in part with garnet and/or biotite porphyroblasts
4. muscovite-(biotite)-rich schist (mudstone/pelite)
5. plagioclase-rich rocks (probably metamorphosed felsic volcanic rocks)
6. metamorphosed diorite, quartz diorite (plagioclase-hornblende)

4.9 Compilation of Data

Roy Lammle compiled the 1996 field work and produced the assessment report (Lammle, 1997).

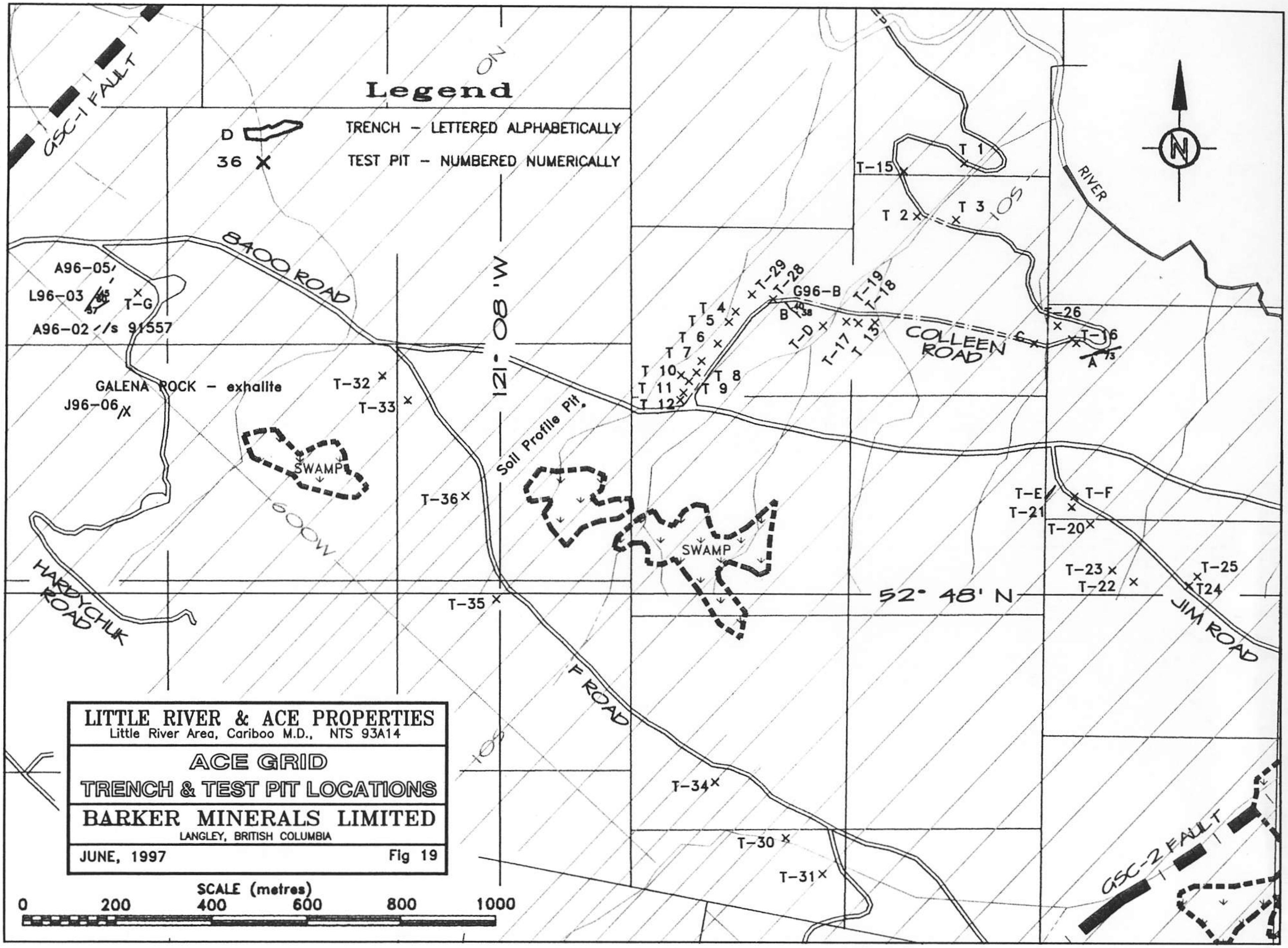


Fig. 19. Ace Grid – Trench & Test Pit Locations

5.0 CONCLUSIONS AND RECOMMENDATIONS

During 1996, Barker's exploration attention was concentrated, in large part, on acquisition and preliminary examination of peripheral ground. Only a relatively small amount of work was done on the core ground, the Ace property. The Cariboo prospect was examined in some detail, but the work done on it did not advance it much beyond the stage at which Gibraltar had relinquished its option. The economic potential of the Ace and Cariboo should be better evaluated. The 1997 exploration season should focus on the Ace property and Cariboo prospect, with lesser work on the peripheral claims.

5.1 Ace Property - Phase 1

5.1.1 Geological Mapping

The property should be mapped using an orthophotographic topographic base at a scale of 1:5000, and at a scale of 1:2000 in zones of high economic interest and where outcrop is abundant. Because of the sparse distribution of outcrop on the north slope of Barker Mountain, outcrop should be sought along streams and gullies and this geology tied to that from better exposures along the crest of Barker Mountain, at Ace West, in and near the Cariboo prospect, along the 8400 Road, and along Ishkloo Creek. Part of this study will focus on generating good cross-sections of the local stratigraphy to determine whether the volcanogenic massive sulfide model is realistic.

The 2-m-wide quartz vein which is exposed in the bed of Little River projects westerly across the "8400" road where it is coincident with VLF-EM conductors on Ace 22. From there it projects toward a large swamp. It may be the source of some of the float boulders in Doyle's float train. Float from this general area should be carefully studied in connection with the above mentioned mapping of Doyle's Float Train. This vein has anomalous magnetic and VLF-EM signatures, and these should be tested along strike.

A detailed map of boulders in Doyle's float train should be made, and boulders characterized according to type and probable mode of origin, e.g., massive or semi-massive sulfide, sulfide-rich quartz veins, tourmaline- and/or graphite-bearing quartz, bull quartz, early, deformed quartz veins and lenses, late, fracture-filling quartz veins. Representative samples of the boulders should be taken in contrast to the previous grab samples. A hand-held, coring drill and/or diamond saw would be useful for this work. Distribution patterns of different types of boulders should be compared with glacial features and any correlations explained.

5.1.2 Trenches and Pits

Existing trenches should be dewatered, washed, and mapped in detail, and chip and channel sampled where pyritized, silicified or altered. As the hard rocks are resistant to sampling by hammer and moil, a diamond drill or saw should be available to allow good channel samples. Further trenches should be excavated where feasible to determine stratigraphy and to attempt to explain some of the geophysical anomalies. Trenches should be mapped and sampled as they are being excavated.

5.1.3 Geochemical Sampling (Stream-Sediments and Soils)

In conjunction with the property mapping, stream-sediment samples should be taken at regular intervals along the traversed streams and gullies, and where these are crossed by access roads. Because the original discovery was made at the outlet of a culvert along a new logging spur, as many 'culvert' stream-sediment samples as possible should be taken. Culvert samples should be taken from pit traps at the head ends of culverts or from the first few corrugations, which act as sluice-box riffles. A portion of each sample should be used for heavy mineral separation and analysis, and a second portion should be panned for gold. Catchment basins of resulting heavy mineral suites should be evaluated.

Soil geochemical samples should be taken in areas of the Ace grid not yet sampled, and as follow-up studies to any new areas of interest determined by geology or stream sediment samples.

5.1.4 Geophysical Surveys along the GSC-1 and GSC-2 Normal Faults

Dilatent zones conducive to vein deposition could have formed along these structures, especially in areas where they crosscut the float train and any stratigraphic horizon favorable for volcanogenic massive sulfide deposits. Some ore zones in the historic mines at Wells and Barkerville were formed in faults of this kind. To test these structures by a VLF-EM survey, a new grid will be required over each fault with 1000 m-long baselines parallel to the fault so that the Seattle transmitter can be used. Cross lines should be at 100 m separations, and stations at 25 m intervals. The two grids would entail 24 km of line work, and 22 km of GSM-19 magnetometer and VLF-EM measurements.

5.1.5 "Black Hole" Anomalies

Additional work should be done to outline the magnetic-low anomalies at 250W, 1700S and Ace 0+50E, 4200S. Both of these are confined to a few stations along a single grid line. The first anomaly may be related to a body of carbonate whereas the second is of uncertain origin. Detailed GSM-19 studies should be done on mini-grids centered on the anomalies, and once the anomalies are defined more clearly, additional geology, geochemistry, and geophysics should be done if warranted. If geochemical work is encouraging, trenching should follow.

5.1.6 Grid Reconstruction

Grids prepared in previous exploration were in large part uncorrected for deviation in azimuth or length. The grids should be rectified at an early stage in the 1997 exploration program by surveying in junctions of grid lines with roads and Little River. As well cross tie-lines should be laid out and surveyed where necessary. Previous geological, geophysical, and geochemical data should be plotted on the rectified grids.

5.2 Ace Property - Phase 2

The second phase of work on the Ace property is contingent on encouragement from the first phase. It would consist of more extensive trenching, and preliminary diamond drilling. Profiles of trenches and fences of drill holes should be perpendicular to stratigraphy, and ideally should coincide with each other and with geophysical survey lines, for purposes of geological interpretation, cost effectiveness, efficiency, and environmental preservation. Based on the results of this study, a drill program will be carried out.

5.3 Ace Property - Phase 3

The third phase of work on the Ace property would focus on continued diamond drilling of targets defined in the second stage.

5.4 Cariboo Prospect

A test grid was done during 1996. This grid, VLF-EM and magnetometer surveys, and geochemical soil sampling should be expanded during 1997 to trace the trend of stratabound mineralization structure as far as possible along strike. Geological mapping should be extended from that of Roach and done at a scale of 1:2000. Soil and stream-sediment sampling should be done. Work in the second stage would be contingent on positive results of the first stage, and could include trenching and diamond drilling.

5.5 Peripheral Claims

Most of the work done on the peripheral claims in 1996 did not commence until late in the season. Thus, the work was focused along roads because of convenience of access rather than technical merit. To allow preliminary technical appraisal of the peripheral ground, a reconnaissance stream sediment survey be undertaken. As much of the area as possible should be sampled using 4-wheel-drive vehicles or mud-bike transportation, with allowance for a couple of season-ending helicopter days to reach areas of difficult land access. Samples should be analyzed by conventional ICP methods, and results evaluated on the basis of drainage basin areas affected by the particular samples. Detailed mapping and detailed stream and soil geochemistry are recommended for the Ace West and Frank Creek areas. Anomalous values in the stream-sediment sampling study should be followed up by geological, geochemical, and geophysical surveys. Work in the second stage would be contingent on positive results of the first stage, and would include geological mapping, soil geochemistry, geophysics, and trenching.

6.0 BUDGET

The following budget is proposed for the recommended work over the next two years. Succeeding phases are contingent on positive results of preceding phases.

Phase 1	
Geological Mapping and Supervision	$ 50,000
Surveying, Line Cutting and Rectification	20,000
Geophysical Surveys	40,000
Geochemical Surveys, Sampling, Assays	30,000
Trenching	150,000
Peripheral Claims (Stream Sampling, Mapping, Assays)	140,000
Petrographic and Mineralogical Studies	15,000
Vehicle Rental	25,000
Field Management, Administration and Camp Costs	100,000
Subtotal	$ 570,000
Phase 2	
Geological Mapping and Supervision	$ 50,000
Trenching	200,000
Geophysical Surveys	50,000
Diamond Drilling 5,000 metres @ $100/metre	500,000
Geochemical Surveys, Sampling, Assays	50,000
Peripheral Claims: low-level airborne geophysical surveys	400,000
Petrographic and Mineralogical Studies	15,000
Vehicle Rental	25,000
Field Management, Administration and Camp Costs	100,000
Subtotal	$1,390,000
Phase 3	
Geological Mapping and Supervision	50,000
Trenching	100,000
Diamond Drilling 15,000 metres @ $100/metre	1,500,000
Geochemical Sampling, Assays	70,000
Peripheral: surface exploration based on results of stream-sediment and airborne geophysical surveys	250,000
Petrographic and Mineralogical Studies	10,000
Vehicle Rental	20,000
Field Management, Administration and Camp Costs	90,000
Subtotal	$2,090,000
Total (Phases 1, 2, and 3)	**$4,050,000**
Company Expenses office overhead, stock exchange listing, legal costs, accounting, regulatory costs, office salaries, promotion, advertising	$ 450,000
Total Cost (1997-1998 programs)	**$4,500,000**

John G. Payne, Ph.D.
July, 1997

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8.0 APPENDICES

Appendix 1: Claim Data

ACE	CARIBOO MINERAL CLAIMS			BARKER MINERALS LIMITED		REVISED
	CLAIM	STAKED	UNITS	TENURE	EXPIRY Y/M/D	97/03/18
	E 1	1995/02/26	1	334284	2000/02/26	
	E 2	1995/02/26	1	334285	2000/02/26	
	E 3	1995/02/26	1	334286	2000/02/26	
	E 4	1995/02/26	1	334287	2000/02/26	
	E 6	1995/04/22	1	335606	2000/04/22	
	Ace 57	1994/09/18	1	331316	2000/09/18	
	Ace 82	1994/09/20	1	331335	2000/09/20	
	Ace 83	1994/09/20	1	331336	2000/09/20	
	Ace 84	1994/09/20	1	331337	2000/09/20	
	Ace 85	1994/09/20	1	331338	2000/09/20	
	Ace 94	1994/09/28	1	331509	2000/09/28	
	Ace 95	2000/09/27	1	331510	2000/09/28	
	Ace 96	2000/09/27	1	331511	2000/09/28	
	Ace 97	2000/09/27	1	331512	2000/09/28	
	Ace 98	2000/09/27	1	331513	2000/09/28	
	Ace 99	2000/09/27	1	331514	2000/09/28	
	Ace 100	2000/09/27	1	331515	2000/09/28	
	Ace 101	2000/09/27	1	331516	2000/09/28	
	Ace 102	2000/09/27	1	331517	2000/09/28	
	Ace 103	2000/09/27	1	331518	2000/09/28	
	Ace 104	2000/09/27	1	331519	2000/09/28	
	Ace 105	2000/09/27	1	331520	2000/09/28	
	Ace 106	1994/09/29	1	331521	2000/09/29	
	Ace 107	1994/09/29	1	331522	2000/09/29	
	Ace 108	1994/09/29	1	331523	2000/09/29	
	Ace 109	1994/09/29	1	331524	2000/09/29	
	Ace 110	1994/09/29	1	331525	2000/09/29	
	Ace 111	1994/09/29	1	331526	2000/09/29	
	Ace 112	1994/09/29	1	331527	2000/09/29	
	Led 1	1994/10/15	1	332104	2000/10/15	
	Led 2	1994/10/15	1	332105	2000/10/15	
	Led 3	1994/10/15	1	332106	2000/10/15	
	Led 4	1994/10/15	1	332107	2000/10/15	
	Led 5	1994/10/15	1	332108	2000/10/15	
	Led 6	1994/10/15	1	332109	2000/10/15	
	Led 7	1994/10/15	1	332110	2000/10/15	
	Led 8	1994/10/15	1	332111	2000/10/15	
	Led 9	1994/10/15	1	332112	2000/10/15	
	Led 10	1994/10/15	1	332113	2000/10/15	
	Led 11	1994/10/15	1	332114	2000/10/15	
	Led 12	1994/10/15	1	332115	2000/10/15	
	Led 13	1994/10/17	1	332116	2000/10/17	
	Led 14	1994/10/17	1	332117	2000/10/17	
	Led 15	1994/10/17	1	332118	2000/10/17	
	Led 16	1994/10/17	1	332119	2000/10/17	
	Led 17	1994/10/17	1	332120	2000/10/17	
	Led 18	1994/10/17	1	332121	2000/10/17	
	Led 19	1994/10/17	1	332122	2000/10/17	
	Led 20	1994/10/17	1	332123	2000/10/17	
	Led 21	1994/10/17	1	332124	2000/10/17	
	Led 22	1994/10/17	1	332125	2000/10/17	
	Led 23	1994/10/17	1	332126	2000/10/17	
	Led 24	1994/10/17	1	332127	2000/10/17	
	Unlikely I	1993/10/31	1	322616	2000/10/31	
	Unlikely II	1993/10/31	1	322617	2000/10/31	
	Ace 1	1993/11/07	1	322720	2000/11/07	
	Ace 2	1993/11/07	1	322721	2000/11/07	
	Ace 3	1993/11/07	1	322722	2000/11/07	
	Ace 4	1993/11/07	1	322723	2000/11/07	
	Ace 5	1993/11/07	1	322724	2000/11/07	
	Ace 6	1993/11/07	1	322725	2000/11/07	
	Ace 7	1993/11/07	1	322726	2000/11/07	
	Ace 8	1993/11/07	1	322727	2000/11/07	
	Ace 9	1993/11/07	1	322728	2000/11/07	
	Ace 10	1993/11/07	1	322729	2000/11/07	
	Ace 11	1993/11/07	1	322730	2000/11/07	
	Ace 12	1993/11/07	1	322731	2000/11/07	
	Ace 13	1993/11/07	1	322732	2000/11/07	
	Ace 14	1993/11/07	1	322733	2000/11/07	
	Ace 20	1993/12/04	1	323070	2000/12/04	
	Ace 21	1993/12/04	1	323071	2000/12/04	
	Ace 22	1993/12/04	1	323072	2000/12/04	
	Ace 23	1993/12/04	1	323073	2000/12/04	
	Ace 24	1993/12/04	1	323074	2000/12/04	
	Ace 25	1993/12/04	1	323075	2000/12/04	
	Ace 26	1993/12/04	1	323076	2000/12/04	
	Ace 27	1993/12/04	1	323077	2000/12/04	

Ace 28	1993/12/04	1	323078	2000/12/04
Ace 29	1993/12/04	1	323079	2000/12/04
Ace 30	1993/12/04	1	323080	2000/12/04
Ace 15	1993/12/05	1	323065	2000/12/05
Ace 16	1993/12/05	1	323066	2000/12/05
Ace 17	1993/12/05	1	323087	2000/12/05
Ace 18	1993/12/05	1	323088	2000/12/05
Ace 19	1993/12/05	1	323069	2000/12/05
Ace 31	1993/12/05	1	323081	2000/12/05
Ace 32	1993/12/05	1	323082	2000/12/05
Ace 33	1993/12/05	1	323088	2000/12/05
Ace 34	1993/12/05	1	323084	2000/12/05
Ace 35	1993/12/05	1	323085	2000/12/05
Ace 36	1993/12/05	1	323086	2000/12/05
Ace 37	1993/12/05	1	323087	2000/12/05
Ace 38	1993/12/05	1	323088	2000/12/05
Ace 40	1993/12/05	1	323090	2000/12/05
Ace 42	1993/12/05	1	323092	2000/12/05
Ace 44	1993/12/05	1	323094	2000/12/05
Col 6	1995/02/12	10	334103	2001/02/12
Col 5	1995/02/12	10	334108	2001/02/12
E 5	1995/02/26	1	334288	2001/02/26
Abracad 2	1996/04/22	9	338004	2001/04/22
Ace 39	1993/12/05	1	323089	2001/12/05
Ace 41	1993/12/05	1	323091	2001/12/05
Ace 43	1993/12/05	1	323093	2001/12/05
LD 1	1995/02/12	6	334104	2003/02/12
LD 2	1995/02/12	12	334105	2003/02/12
Ace 58	1994/09/18	1	331317	2005/09/18
Ace 59	1994/09/18	1	331318	2005/09/18
Ace 60	1994/09/18	1	331319	2005/09/18
Ace 61	1994/09/18	1	331320	2005/09/18
Ace 62	1994/09/18	1	331321	2005/09/18
Ace 63	1994/09/18	1	331322	2005/09/18
Ace 64	1994/09/18	1	331323	2005/09/18
Ace 65	1994/09/18	1	331324	2005/09/18
Ace 70	1994/09/94	1	331325	2005/09/19
Ace 71	1994/09/94	1	331326	2005/09/19
Ace 72	1994/09/94	1	331327	2005/09/19
Ace 73	1994/09/94	1	331328	2005/09/19
Ace 74	1994/09/94	1	331329	2005/09/19
Ace 75	1994/09/94	1	331330	2005/09/19
Ace 76	1994/09/94	1	331331	2005/09/19
Ace 77	1994/09/94	1	331332	2005/09/19
Ace 78	1994/09/94	1	331333	2005/09/19
Ace 79	1994/09/94	1	331334	2005/09/19
Ace 86	1994/09/27	1	331501	2005/09/27
Ace 87	1994/09/27	1	331502	2005/09/27
Ace 88	1994/09/27	1	331503	2005/09/27
Ace 89	1994/09/27	1	331504	2005/09/27
Ace 90	1994/09/27	1	331505	2005/09/27
Ace 91	1994/09/27	1	331506	2005/09/27
Ace 92	1994/09/27	1	331507	2005/09/27
Ace 93	1994/09/27	1	331508	2005/09/27
Ace 67	1994/10/14	1	332097	2005/10/14
Ace 68	1994/10/14	1	332098	2005/10/14
Ace 69	1994/10/14	1	332099	2005/10/14

CARIBOO PLACER CLAIMS BARKER MINERALS LIMITED

P. CLAIM	*STAKED*	*UNITS*	*TENURE*	*EXPIRY Y/M/D*
P 3	1995/02/25	1	334280	1998/02/25
P 4	1995/02/25	1	334281	1998/02/25
P 6	1995/02/25	1	334290	1998/02/25
Roar 1	1996/02/28	1	343996	1998/02/28
Roar 2	1996/02/28	1	343997	1998/02/28
Roar 3	1996/02/28	1	343998	1998/02/28
Roar 4	1996/02/28	1	343999	1998/02/28
Roar 5	1996/02/28	1	344000	1998/02/28
Roar 6	1996/02/28	1	344001	1998/02/28
Roar 7	1996/02/28	1	344002	1998/02/28
Roar 8	1996/02/28	1	344003	1998/02/28
Kloo 1	1994/07/06	1	328701	1999/07/06
Kloo 2	1994/07/06	1	328702	1999/07/06
Kloo 3	1994/07/06	1	328703	1999/07/06
Kloo 4	1994/07/06	1	328704	1999/07/06

PERIPHERAL CLAIMS BARKER MINERALS LTD REVISED 1997/04/07

CLAIM	STAKED	UNITS	TENURE	EXPIRY Y/M/D	PACKAGE
Comet 1	1996/06/07	18	347050	1998/06/07	COMET
Comet 2	1996/06/07	18	347051	1998/06/07	COMET
Comet 3	1996/06/07	9	347052	1998/06/07	COMET
Comet 4	1996/06/07	9	347053	1998/06/07	COMET
Comet 5	1996/06/08	15	347054	1998/06/08	COMET
Comet 6	1996/06/08	12	347055	1998/06/08	COMET
Comet 7	1996/06/08	12	347056	1998/06/08	COMET
Comet 8	1996/06/08	9	347057	1998/06/08	COMET
Comet 9	1996/06/09	12	347058	1998/06/09	COMET
Comet 10	1996/06/09	12	347059	1998/06/09	COMET
Comet 11	1996/06/09	12	347060	1998/06/09	COMET
Chay 1	1996/02/13	20	343725	1998/02/13	KIMBALL
Chay 2	1996/02/13	20	343726	1998/02/13	KIMBALL
Chay 3	1996/02/13	20	343727	1998/02/13	KIMBALL
Chay 4	1996/02/13	20	343728	1998/02/13	KIMBALL
Cath 1	1996/02/14	18	343766	1998/02/14	KIMBALL
Cath 2	1996/02/14	12	343767	1998/02/14	KIMBALL
Cath 3	1996/02/14	18	343768	1998/02/14	KIMBALL
Cath 4	1996/02/14	15	343769	1998/02/14	KIMBALL
Rivy 1	1996/02/15	18	343735	1998/02/15	BLACK STEWART
Rivy 2	1996/02/15	18	343736	1998/02/15	BLACK STEWART
Tys 1	1996/02/15	20	343737	1998/02/15	BLACK STEWART
Tys 2	1996/02/15	20	343738	1998/02/15	BLACK STEWART
Tys 3	1996/02/15	20	343745	1998/02/15	BLACK STEWART
Tys 4	1996/02/15	20	343746	1998/02/15	BLACK STEWART
Net 1	1996/02/15	10	343751	1998/02/15	LITTLE RIVER
Net 2	1996/02/15	20	343752	1998/02/15	LITTLE RIVER
Net 3	1996/02/15	12	343753	1998/02/15	LITTLE RIVER
Net 4	1996/02/15	12	343754	1998/02/15	LITTLE RIVER
Black 1	1996/02/15	12	343757	1998/02/15	BLACK STEWART
Black 2	1996/02/15	18	343758	1998/02/15	BLACK STEWART
Gar 1	1996/02/16	5	343759	1998/02/16	LITTLE RIVER
Gar 2	1996/02/16	20	343751	1998/02/16	LITTLE RIVER
Brown 1	1996/02/24	15	343986	1998/02/24	BADGER
Brown 2	1996/02/24	18	343987	1998/02/24	BADGER
Brown 3	1996/02/24	20	343988	1998/02/24	BADGER
Brown 4	1996/02/24	20	343989	1998/02/24	BADGER
Sell 1	1996/02/25	6	343990	1998/02/25	BADGER
Sell 2	1996/02/25	4	343991	1998/02/25	BADGER
Sell 3	1996/02/25	8	343992	1998/02/25	BADGER
Sell 4	1996/02/25	12	343993	1998/02/25	BADGER
Bad 1	1996/02/25	20	344004	1998/02/25	BADGER
Bad 2	1996/02/25	20	344005	1998/02/25	BADGER
Bad 3	1996/02/26	20	344006	1998/02/26	BADGER
Badger 1	1996/02/26	6	344997	1998/02/26	BADGER
Badger 2	1996/02/26	14	344008	1998/02/26	BADGER
Goo 1	1996/02/26	20	344015	1998/02/26	BADGER
Steven 1	1996/02/27	20	344000	1998/02/27	MT STEVENSON
Steven 2	1996/02/27	20	344010	1998/02/27	MT STEVENSON
Steven 3	1996/02/27	10	344011	1998/02/27	MT STEVENSON
Steven 4	1996/02/27	10	344012	1998/02/27	MT STEVENSON
Son 1	1996/02/27	15	344013	1998/02/27	MT STEVENSON
Son 2	1996/02/27	18	344014	1998/02/27	MT STEVENSON
Roar 2	1995/04/20	12	335485	1998/04/20	ROARING
Roar 3	1995/04/20	9	335486	1998/04/20	ROARING
Roar 4	1995/04/20	18	333487	1998/04/20	ROARING
Aubar 1	1996/04/25	8	343690	1998/04/25	THREE LADIES
Aubar 2	1996/04/25	15	345691	1998/04/25	THREE LADIES
Aubar 3	1996/04/25	20	345692	1998/04/25	THREE LADIES
Aubar 4	1996/04/25	20	345693	1998/04/25	THREE LADIES
Aubar 5	1996/04/26	20	343694	1998/04/26	THREE LADIES
Aubar 6	1996/04/26	16	345695	1998/04/26	THREE LADIES
Aubar 7	1996/04/26	20	345696	1998/04/26	THREE LADIES
Aubar 8	1996/04/26	20	345697	1998/04/26	THREE LADIES
Aubar 11	199604/26	20	345700	1998/04/26	MAEFORD
Aubar 12	199604/26	20	345701	1998/04/26	MAEFORD
Aubar 13	199604/26	20	345702	1998/04/26	MAEFORD
Aubar 14	199604/26	16	345703	1998/04/26	MAEFORD
Aubar 9	1996/04/27	16	345696	1998/04/27	MAEFORD
Aubar 10	1996/04/27	20	345699	1998/04/27	MAEFORD
Aubar 15	1996/04/30	20	345704	1998/04/30	THREE MILE
Aubar 16	1996/04/30	20	345705	1998/04/30	THREE MILE
Aubar 17	1996/04/30	20	345706	1998/04/30	THREE MILE
Aubar 18	1996/04/30	12	345707	1998/04/30	THREE MILE
Bruce 1	1996/05/09	20	346018	1998/05/09	TASSE
Bruce 4	1996/05/09	20	345021	1998/05/09	TASSE
Bruce 2	1996/05/11	18	345019	1998/05/11	TASSE
Bruce 3	1996/05/11	18	345020	1998/05/11	TASSE
Bruce 5	1996/05/22	18	346496	1998/05/22	TASSE
Bruce 6	1996/05/23	18	345497	1998/05/23	TASSE
Bruce 7	1996/05/24	18	345498	1998/05/24	TASSE
Bruce 8	1996/05/24	20	346499	1998/05/24	TASSE
Chris 1	1996/05/26	20	346686	1998/05/26	MOUNT BREW

Appendix 2: Geochemical Analysis Methods

Geochemical analyses for 1996 and most of 1995 were made by Acme Analytical Laboratories, Vancouver, B.C.

ICP Normally Acme provides a 30-element inductively coupled plasma (ICP) analysis for soil samples. Although this procedure includes an approximation for gold (because of partial extraction) a second more rigorous "wet" extraction for gold is usually recommended. (Neither of these methods should be confused with the well known and long established fire assay technique for gold.) The ICP method involves dissolving 0.5 grams of –80 mesh sample in aqua regia (1hr @ 95°C), and the resulting solution is then aspirated into an ICP emission spectrograph which accurately determines the amounts of the 30 elements. The "wet" gold method involves dissolution in aqua regia, extraction by MIB, and determination by graphite furnace.

ULTRATRACE ICP Sample preparation and dissolution are the same as for standard ICP analyses. However much larger splits are used – usually 10 grams. This allows analysis of a broader range of elements with much greater sensitivity and accuracy, using the same ICP emission spectrograph.

HYDRIDE VOLATILE ELEMENTS Sample preparation and dissolution are, again, the same as for ICP with 0.5 gram splits. The hydride elements – As, Bi, Sb, Se, Te, & Ge – are then precipitated in a 50% ammonium hydroxide solution. After centrifuging, the precipitate is separated and re-dissolved in aqua regia. The hydrides are then volatized with borohydride solution, and determinations made as before with the ICP emission spectrograph.

WHOLE ROCK ANALYSES Samples are dried and crushed to –80 mesh. Then 0.2 gram splits are placed in a crucible with $LiBO_2$ flux, and melted during 25 minutes at 1025^{0}C. The molten material is then dissolved in nitric acid, and the resulting solution then aspirated into the ICP emission spectrograph for determination of the amounts of major oxides and elements.

9.0 CERTIFICATE OF ENGINEER

I, **John G. Payne**, do hereby certify that:

1. I graduated from Queen's University, Kingston, Ontario, in 1961 with a B.Sc. degree in Geological Engineering.

2. I graduated from McMaster University, Hamilton, Ontario, in 1966 with a Ph.D. in Geochemistry. My thesis topic was: The Geology and Geochemistry of the Blue Mountain Nepheline Syenite Body, Southern Ontario.

3. I am a Fellow of the Geological Association of Canada, Fellow No. 1677, and have been a member in good standing since 1969.

4. From 1967 to the present, I have been actively engaged as a geologist in mineral exploration, mainly in the North American Cordillera, but also in the South American Cordillera, Southeast Asia, and the Canadian Shield. As well, since 1974, I have been Senior Petrographer with Vancouver Petrographics, Ltd, Langley, B.C.

5. I visited the properties of Barker Minerals described in this report in May 24-28, 1997. I have reviewed existing data on the properties in the possession of Barker Minerals, Ltd., and have discussed the program with Louis Doyle, President of Barker Minerals, Ltd., and Roy Lammle, consulting geologist for Barker Minerals, Ltd.

6. I have no present or planned interest in Barker Minerals, Ltd., or the claims described in this report.

7. This report was prepared at the request of Louis Doyle, President of Barker Minerals, Ltd. It may be used in a prospectus or a Statement of Material Facts by Barker Minerals, Ltd.

8. I live at 877 Old Lillooet Road, North Vancouver, B.C., V7J 2H6.
   Tel: (604)-986-2928.
   Fax: (604)-983-3318
   e-mail: johnpayn@istar.ca

Dated at North Vancouver, July 1997.

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John G. Payne, Ph.D.