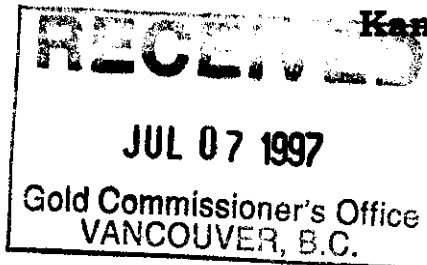


**GEOLOGICAL ASSESSMENT  
and SUMMARY REPORT  
ON THE  
BIRCH 1 AND 2 CLAIMS**

**Longitude 119° 53' W and Latitude 51° 32'N  
NTS 82M/12W**

**North Thompson River Area  
Kamloops Mining Division  
British Columbia**



**for**

**Homegold Resources Ltd.  
Unit 5 - 2330 Tyner St.,  
Port Coquitlam, B.C.  
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**by**

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**May 6, 1997**

**Fieldwork completed between Sept. 20 and Sept. 24, 1996**

25 070

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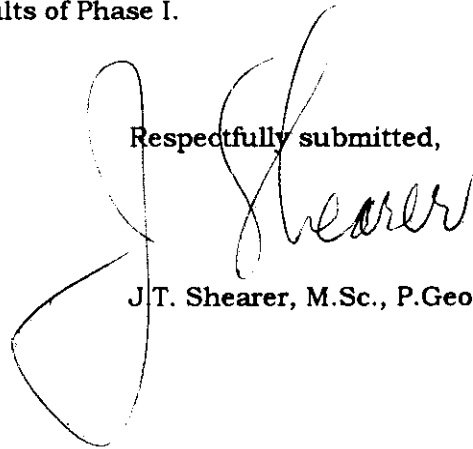
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## SUMMARY

- 1) The Birch Claim group is located in south-central British Columbia and is approximately 125 kilometres north-northeast of the City of Kamloops and 15 km east of Clearwater. Numerous logging roads provide excellent access to most of the property.
- 2) The property consists of 2 modified grid claims, Birch # 1 to Birch # 2, totaling 35 units. The current expiry date is April 16, 1998.
- 3) The potential for polymetallic volcanogenic - massive sulfide deposits in the area of the Birch Group has been recognized since the early 1970's. Several economic deposits have been found elsewhere in the Eagle Bay Formation which underlies large portions of the Adams Plateau. The Samatosum Silver deposit near Barrier is hosted by Eagle Bay Formation.
- 4) Preliminary geological, geochemical, geophysical and limited diamond drilling was carried out by various operators prior to 1985. Foundation Resources Ltd. acquired the ground in May of 1987 and subsequently optioned the Birch 1-4 claims to Gemstar Resources Ltd. who spent \$175,000 on the property between 1988 and 1990.
- 5) A program of detailed geological mapping, soil and silt geochemical sampling, induced polarization geophysics, prospecting and hand trenching was carried out on the Birch # 1 to # 4 claims between May and July of 1988. This work resulted in the discovery of three new mineralized zones that carry anomalous gold values. In addition to these new mineralized areas, the previously discovered Main Massive Sulfide Zone was re-sampled in 1988.
- 6) A semi-massive sulfide zoned hosted by chlorite schist is located a short distance to the west and up-section from the Main Massive Sulfide Zone. This schist contains abundant pyrite (15-20%) and lesser amounts of galena and sphalerite (less than 1%). Gold values range between 175 and 220 ppb.
- 7) The most significant zone found in 1988 was located in the central part of the property along an old road and consists of an iron carbonate and siliceous exhalatite unit containing pyrite, chalcopyrite, galena and sphalerite. Six diamond drill holes and two backhoe trenches were completed in this zone in 1990. A blind massive sulfide horizon was discovered by drilling immediately below the exhalatite unit. The holes indicate a northeasterly trend with a shallow to moderate dip to the northwest. Gold values range between 105 and 1450 ppb, while silver values range between 1.6 and 28.8 ppm in drill core. Highly anomalous Pb, Zn and Ag in soil samples located 50 metres north along L8+00W, indicate this zone possibly has an associated base metal-rich lense. Gold values of chip samples in the backhoe trench range up to 1020 ppb gold. This area forms the highest priority target for future exploration, which should focus on the base-metal potential higher in the stratigraphy to the west.

- 8) A third showing was found on the northern part of the Birch # 1 claim and consists of intensely pyritized and silicified rhyolite and rhyolite breccia. Fluorite was noted occasionally. A line of induced polarization in 1988 indicated a strong conductor. Gold values are low but since this unit was poorly exposed, further exploration was required to locate possible gold enriched areas.
- 9) An induced polarization survey in 1990 indicated a trend parallel to the 1988 hand dug pits. Backhoe trenching exposed an extensive zone of quartz veining and silicification. A diamond Drill hole intersected the silicified zone, but only low gold values were encountered.
- 10) The induced polarization survey on L5+00W of the Main grid indicates a wide chargeability high to the south of the Exhalative Zone. This anomaly is west of the semi-massive sulfide zone discovered in 1988 and along the extension of the trend of the Main Massive Sulfide Zone.
- 11) The current work program of detailed geological mapping is the subject of this report. Follow-up soil geochemistry, further Induce Polarization and backhoe trenching is recommended at a cost of \$100,000. A Phase II diamond drill program of \$165,000 is contingent on the results of Phase I.

Respectfully submitted,



J.T. Shearer, M.Sc., P.Geo.

## INTRODUCTION

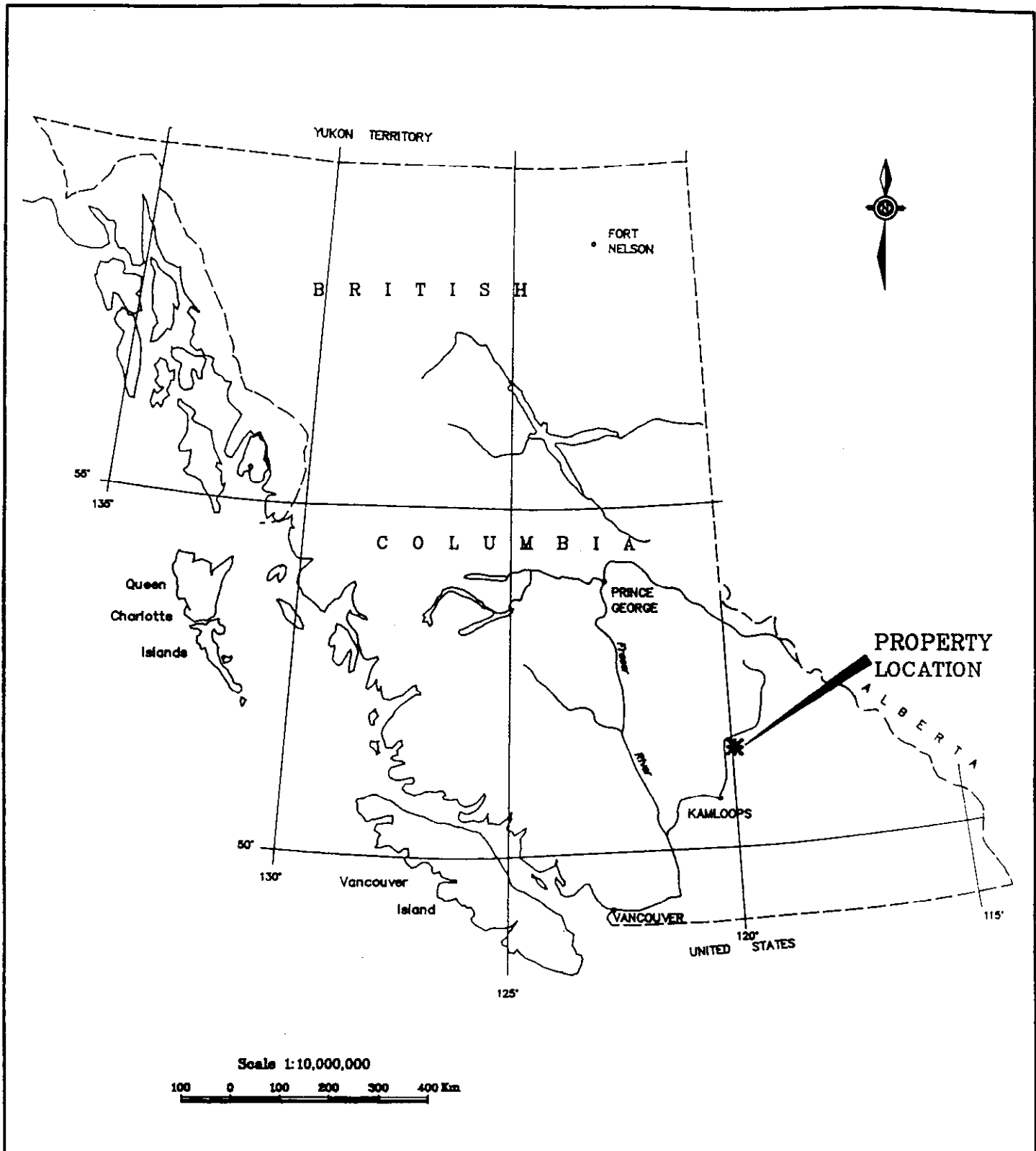
The Birch 1 and 2 claims consisting of 35 contiguous units were staked in April 1996. These claims are available for option. All data including maps, survey data and drill core is stored in Homegold's files.

The ground was originally held by Barrier Reef Resources from 1979 to 1986 as the Foggy claims. A considerable amount of work, including diamond drilling, was completed by Barrier Reef and property optionee, Esso Resources Canada. The claims were allowed to lapse in 1986/87.

Research into the area by Homegold Resources indicated that the outcropping massive sulfide zones had not been developed as precious metal exploration targets. Work in the past had been mainly for copper, lead and zinc. Also, the previous drilling programs may not have reached the main massive sulfide horizon. Volcanogenic massive sulfide deposits (Kuroko) often exhibit a variety of stratigraphically interrelated but mineralogically distinct ore lenses. Fine grained pyrite (known as yellow ore) with chalcopyrite is a common type. This usually is overlain by a base metal rich zone containing sphalerite and galena (black ore). Black ore usually occurs either immediately on top of or separated by a tuffaceous band from the yellow ore. Characteristically, these deposits can contain low but economically significant quantities of gold. The association of gypsum, common in the early stages of deposition of the yellow ore, may be analogous to parts of the "Exhalative showing" on the Birch claims. Regional metamorphism has possibly caused a pervasive recrystallization of the massive sulfides. Apparent banding is sub-parallel to schistosity and crystal size is increased. Lateral changes over short distances are common, as exemplified by the Rea Gold and Samatosum orebodies, only a few hundred metres apart. The Rea deposit is an arsenical pyrite-gold zone, while the Samatosum deposit is high grade silver with negligible arsenic.

The immediate area around the Birch claims is notable for its abundance and variety of mineralization. The Rexspar uranium and fluorite - rare earth oxide deposits adjoin the Birch ground some 4 kilometres north-northwest and represent a trachytic volcanic center. The Harper Creek bulk-tonnage copper property with a mineral inventory of several hundred million tons of about 0.4% copper equivalent is located 4 kilometres southeast. Approximately 50 kilometres to the south of the Birch claims, two significant ore bodies have been discovered. Rea Gold Corp. along with Minnova Corp. put into production the Samatosum silver/zinc orebody, in May 1989 to Dec. 1992, hosted by sericitic phyllites similar to rocks outcropping on the Birch claims. The Homestake deposit, which lies near the Samatosum Mine, is also hosted by altered and sheared sericite schists of the Eagle Bay Formation.

The main massive sulfide zone exposed on the Birch claims appears to have considerable strike length and down dip continuity as shown by geochemical anomalies and geophysical results. Only very limited drill testing has been done and considerably more work needs to be done to evaluate the gold potential of this and other zones.



Scale 1:10,000,000  
 100 0 100 200 300 400 Km

|                         |                   |                   |                       |           |
|-------------------------|-------------------|-------------------|-----------------------|-----------|
| HOMEGOLD RESOURCES LTD. |                   |                   |                       |           |
| BIRCH 1&2 CLAIMS        |                   |                   |                       |           |
| LOCATION MAP            |                   |                   |                       |           |
| SCALE:<br>AS NOTED      | DATE:<br>JUNE '80 | N.T.S.<br>82M/12W | DRAWN BY:<br>GEO-COMP | FIGURE: 1 |

## **LOCATION and ACCESS**

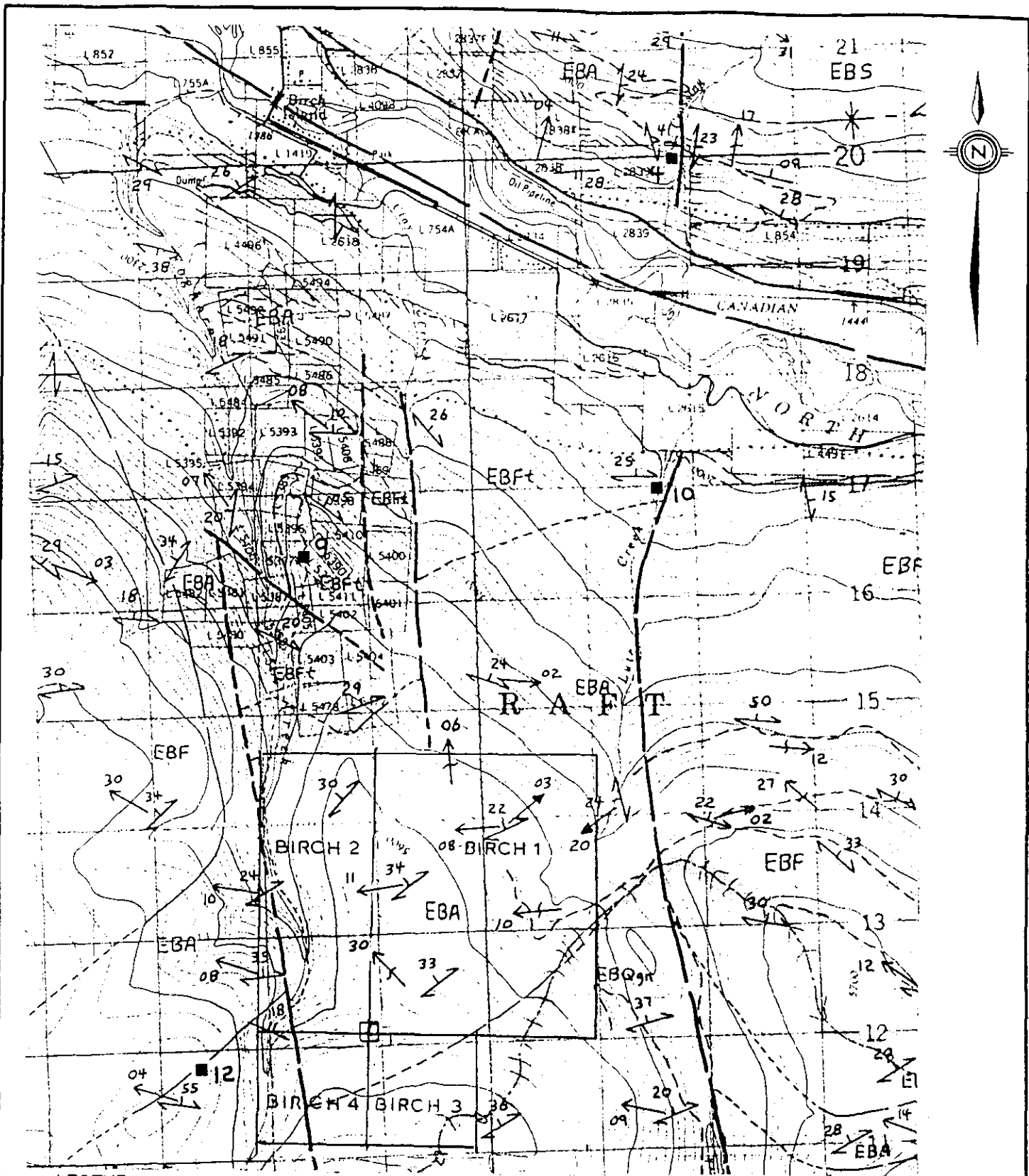
The Birch claims are located some 350 kilometres northeast of Vancouver and 125 kilometres north-northeast of Kamloops in south-central B.C. The property lies 11 kilometres south of the village of Birch Island (Figure 1).

Access to the property is gained by driving 15 kilometres east from Birch Island along the south side of the North Thompson River then 7 kilometres south along the Jones Creek logging road and 11 kilometres west along logging road #71. The approximate geographic center of the property is at 51° 32' North latitude and 119° 53' West longitude. Access to the western part of the property is along the "ridge 4x4 road" parallel to Foghorn Creek which connects north to the old Rexspar workings.

The claims cover part of a northerly trending ridge lying between Foghorn Creek and Lute Creek. Most of the topography is gently sloping to the north and northeast except for that part covering the steep east slope of Foghorn Creek Valley. Part of the property is covered by a dense growth of mature spruce, cedar and fir. Outcrop is most abundant along road cuts and creek gullies.

The property has been logged by way of numerous large clear-cut areas. Elevations range from 1463m to 1828m above seal level (Figure 2). Snow can persist on the ground into May most years at the higher elevations.





**LEGEND**

- EBA EAGLE BAY FM.  
DEVONIAN - Grey sericite  
quartz phyllite, sericite-  
chlorite-quartz schist.  
From felsic to intermediate  
volcanics. Sericitic  
quartzites
- EBFgn EAGLE BAY FM  
LOWER CAMBRIAN?  
Intrusive derived orthogneiss
- EBFt-EAGLE BAY FM - Trachyte tuff

|                                |                  |                   |                       |           |
|--------------------------------|------------------|-------------------|-----------------------|-----------|
| <b>HOMEGOLD RESOURCES LTD.</b> |                  |                   |                       |           |
| <b>BIRCH 1 &amp; 2 CLAIMS</b>  |                  |                   |                       |           |
| <b>TOPOGRAPHIC MAP</b>         |                  |                   |                       |           |
| SCALE<br>1:60,000              | DATE<br>JUNE '97 | N.T.S.<br>62M/12W | DRAWN BY:<br>GEO-COMP | FIGURE: 2 |

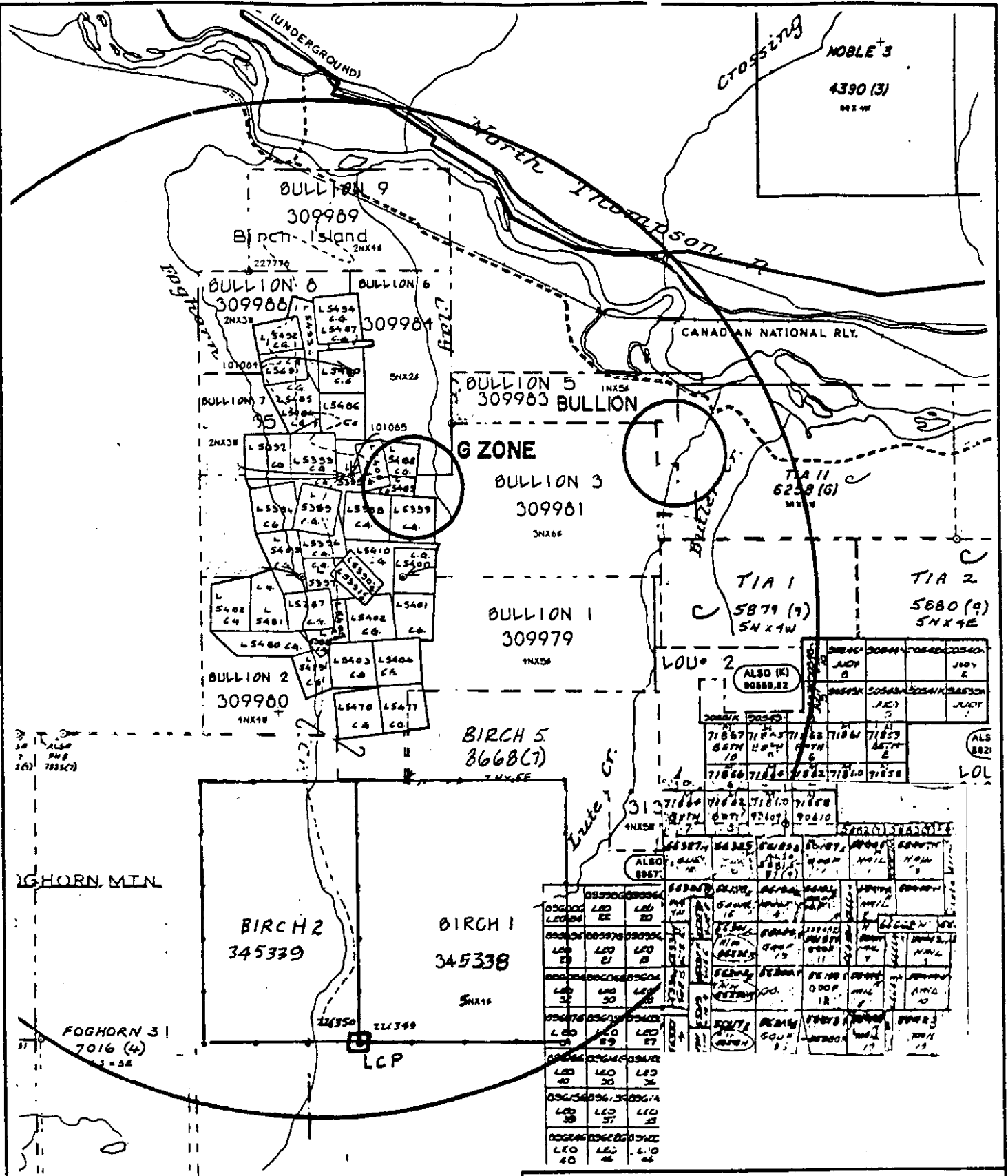
## CLAIM STATUS

A total of two claims consisting of 35 units were staked by Homegold Resources in April 1996. Birch 1 and 2 are wholly owned by Homegold Resources Ltd. (Figure 2).

| <b>Claim Name</b> | <b>Size</b> | <b>Tenure Number</b> | <b>Number of Units</b> | <b>Location Date</b> | <b>Expiry Date</b> | <b>Registered Owner</b> |
|-------------------|-------------|----------------------|------------------------|----------------------|--------------------|-------------------------|
| Birch #1          | 5N4E        | 345334               | 20                     | Apr. 16, 1996        | Apr. 16, 1998      | J.T. Shearer            |
| Birch #2          | 5N3W        | 345335               | 15                     | Apr. 16, 1996        | Apr. 16, 1998      | J.T. Shearer            |
|                   |             | <b>Total</b>         | <b>35</b>              |                      |                    |                         |

\* With assessment work documented in this report.

Mineral Title is acquired in British Columbia via the *Mineral Act* and regulations. All of the Birch Claims are 4 post modified grid claims. Each claim was checked in the field, I am familiar with the high quality of work done by the locators. Claims are kept in good standing by applying appropriate assessment work with the amount of \$100 per unit per year for the first 3 years and the \$200 per year thereafter.



**HOMEGOLD RESOURCES LTD.**

**BIRCH 1&2 CLAIMS**

**CLAIM MAP**

|                 |                |                |                    |
|-----------------|----------------|----------------|--------------------|
| SCALE: 1:60,000 | DATE: JUNE '97 | N.T.S. 82M/12W | DRAWN BY: GEO-COMP |
|                 |                |                | <b>FIGURE: 3</b>   |

## FIELD PROCEDURES

Grid lines that had been established on the property by previous operators between 1979 to 1983 required refurbishing to facilitate the soil sampling and induced polarization geophysical survey programs in 1988. The grid lines trend north and south from an east-west trending baseline designated 20+00N. The distance between stations was hip-chained to ensure an accurate measuring for the location of station flags. A 25 metre interval between stations was used for the induced polarization survey. Stations were established on lines L6+00W and L7+00W at 10 metre intervals to mark soil sample sites. Brush and deadfall that had grown in or fallen across the cut grid lines since 1983 were removed using a power saw. Two lines, L6+00W and L7+00W, were extended to fully define the induced polarization anomalies. These extensions were flagged but not cut.

The "A" grid was established using compass and hipchain with a 400m long tie line trending at 245° with cross lines at 100 metre spacings. The lines are described with the suffix "A" to avoid confusion with previous lines at different azimuths. The lines are flagged at 25 metre intervals to accommodate the induced polarization geophysical survey. This orientation was selected to be parallel to the L1+00W from the previous induced polarization survey and perpendicular to the trend of the hand pits from the 1988 program. Line L2A to L5A are 500m long, with L1A 600 metres long, all at 335° azimuth. The bush and deadfall along L1A and L5A were cleared using a chainsaw in areas outside of the logged off areas to allow easy access for the geophysical equipment operators.

Prospecting and geological mapping traverses were plotted on a 1:5,000 contoured base map showing grid lines. Rock samples were collected and specimens saved. Soil samples were plotted on a 1:5,000 map showing the results for Lead, gold and zinc.

A backhoe trenching program was undertaken in 1988 to create bedrock exposures around some of the geochemical anomalies. Four trenches were dug and then backfilled following sampling. Three of these were along existing roads and the fourth was off the road along an existing cut-line.

The drill core was logged in 1988 and split in Clearwater and stored at the Sylvan Court Motel. The down hole length of the core was measured in metres at the drill since the core tube and drill-stem were in 3m lengths.

A systematic row-by-row testing of the drill core with a scintillometer was performed. All readings were in the background range. This correlates well with the rock sample analysis where no uranium was detected (less than 10 ppm U). Composite samples of the drill core analyzed for thorium had no response. This process was done to ensure that there are no elevated levels of radioactive elements within the area of the project, since it is relatively close to the Rexspar Deposit.

## EXPLORATION HISTORY

Barrier Reef Resources in conjunction with Craigmont Mines carried out an airborne Dighem II EM survey over the Foggy 11 claim (now the Birch claims) during the spring of 1979. This work outlined a resistivity low anomaly. Follow-up work located an outcrop of northeast striking massive sulfide (mainly pyrite) mineralization within sericitic schists.

Soil geochemical sampling and a VLF EM survey were carried out during 1979 to further expand and define the Dighem II anomaly. Anomalous Cu, Zn and Pb geochemical values generally follow the northeasterly trending Dighem II anomaly for approximately 2,200 metres. The VLF-EM survey outlined several weak, linear conductive zones which lie in or adjacent to the Dighem II anomaly.

During 1980 and 1981, Barrier Reef expanded the geochemical soil sampling program as well as performing reconnaissance prospecting and geological mapping. A second outcrop of massive sulfides was located along with mineralized float boulders expanding the strike length of known mineralization to 900 metres.

In 1982 Barrier Reef optioned the ground to Esso Resources. Esso carried out additional ground EM and magnetometer surveys in 1983 as well more soil geochemistry. A major multi-element anomaly emerged from this survey. This anomaly was found to overlie the mineralized outcrop and to parallel its strike for approximately 700 metres. This area is also anomalous in gold.

Esso Resources drilled two holes in late 1983 (BBC 83.2 and 83.3), about 200 metres apart along strike of the mineralized massive sulfide outcrops. Both of these holes intersected two massive sulfide zones. The two zones are separated by about 35 metres of relatively barren rock. The third hole was drilled in 1984 (BBC 84-1) approximately 200 metres down dip from the first two holes. The lateral equivalent of the mineralized zones found in the first two holes were intersected but they were poorly mineralized. A review of the drill holes and results are listed below:

TABLE II

Esso Resources Drill Hole Summary (1983 - 1984)

| Hole     | Core | Length<br>(m) | Inclination | Az  | Best<br>Intersection                    | Width<br>(m)                                   | Au           | Ag         | Cu           | Pb           | Zn           |
|----------|------|---------------|-------------|-----|---|--|--------------|------------|--------------|--------------|--------------|
| BBC-83 2 | BQ   | 139.1         | -45         | 180 | 9.3 - 11.1<br>73.7 - 74.6               | 1.8<br>0.9                                     | .001<br>.010 | .12<br>.21 | .018<br>.056 | .086<br>.007 | .500<br>.012 |
| BBC-93 3 | BQ   | 128.0         | -45         | 180 | 31 - 37.1<br>34.5 - 35.6<br>35.6 - 37.1 | Banded semi-massive sulfide zone<br>1.1<br>1.5 | .017<br>.011 | .80<br>.10 | 1.20<br>.120 | .662<br>.011 | .065<br>.016 |
| BBC-84 1 | BQ   | 134.4         | -90         | -   | 40.2 - 41.2                             | 1.0  | .001         | .06        | .037         | .010         | .010         |

Some backhoe trenching by Esso Resources was also conducted over about 100 metres of the best soil geochemical anomaly. These trenches have now mostly sloughed in.

In 1988, New Global Resources completed a work program for Gemstar Resources Ltd. The program included detailed geological mapping, soil and silt geochemical sampling, induced polarization geophysics, prospecting and hand trenching. The work outlined three new showings that carry anomalous gold values. The induced polarization survey indicated the possibility that two of the three Esso drill holes were not drilled deep enough to intersect the main massive sulfide zone.

A small geological mapping and sampling program was done in 1989 for Gemstar Resources Ltd. on thenow lapsed Birch #5. Diamond drilling, follow-up I.P., geological mapping, soil sampling and backhoe trenching were completed in October 1990.

The Gemstar diamond drilling indicated a blind massive pyrite zone up to 5m thick along strike of the "Exhalite Showing". Further follow-up work is required to evaluate the 1990 drilling. This report documents a limited geological mapping program conducted in September 1996.

The area immediately to the west of the Birch Claims, centered around Foghorn Mountain (is presently open as of May 1997) was originally part of the Esso Resources land package. More recently, Gold Spring Resources Ltd. completed detailed geological, geochemical, geophysical and 14 diamond drillholes totalling 5,000 feet to September 1988 further defining stratabound lead/zinc/silver mineralization. One hole returned values grading 3.34% Pb plus zinc and 2.7 oz/ton silver.

## REGIONAL GEOLOGY

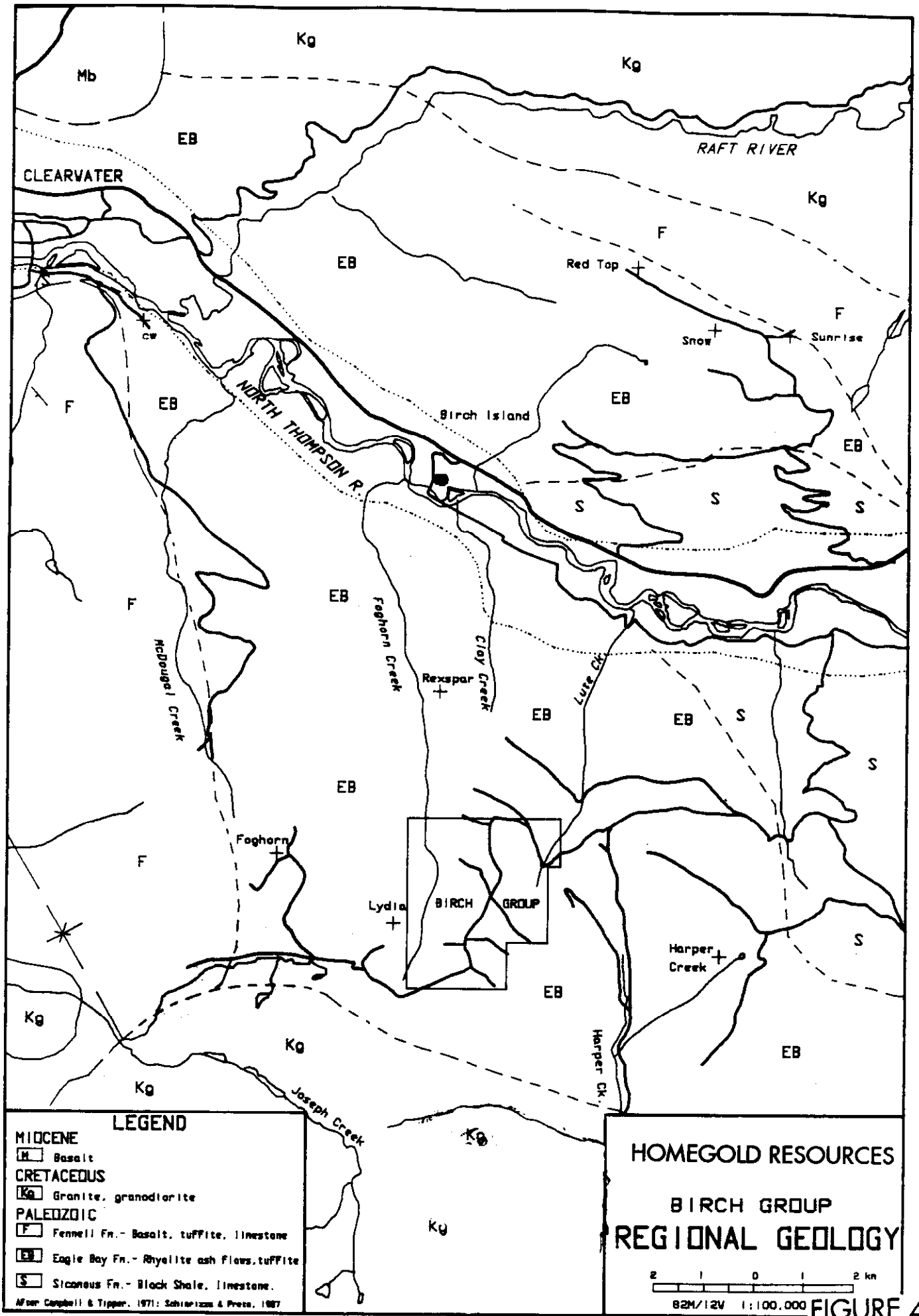
The claims are located in the northwest part of the Seymour Arm/Adams Plateau, an area of Lower to Upper Paleozoic sediments and volcanics with common intrusives. The immediate claim area is underlain by Lower Paleozoic (Devonian to Mississippian) rocks of the Eagle Bay Assemblage. The assemblage consists of rusty weathering, greenish-grey, felspathic-chlorite schists, chlorite schist, sericite schists, quartz sericite schists and sericitic quartzites. These units comprise a relatively flat lying plate, occurring as a slightly north-plunging synform. Bedding strikes northeast at azimuth 045° and dips northwesterly from 10° to 35° (Figure 4).

The Eagle Bay Formation rocks appear to be in thrust contact with early Pennsylvanian to Permo - Triassic Fennel Formation basalts, basic fragmentals, cherts, limestones and argillites approximately 5 kilometres to the west of the Birch claims. The Fennel Formation comprises Devonian to Permian oceanic rocks of the Slide Mountain terrane which were tectonically emplaced over Mississippian rocks of the Eagle Bay Assemblage in early Mesozoic time. The Fennel and Eagle Bay rocks were deformed and metamorphosed together during the Jura-Cretaceous Columbian orogeny; the metamorphic grade is lower greenschist through most of the area, but increases sharply to amphibolite facies in places along the eastern and northeastern margins. The Fennel and Eagle Bay successions are cut by mid-Cretaceous granitic rocks of the Raft and Baldy batholiths, and by Early Tertiary quartz feldspar porphyry, basalt and lamprophyre dykes. They are locally overlain by Eocene sedimentary and volcanic rocks of the Kamloops Group and by Miocene plateau lavas.

Folding of the mineralized zone on the property may occur to a greater extent than previously thought. Small scale structures appear to indicate that the bedding has been deformed into tight isoclinal folds. The Eagle Bay Assemblage resemble, in part, North American miogeoclinal strata to the east and are included with the parautochthonous Kootenay terrane of Price et. al. (1985).

Paleozoic rocks in the general Birch area occur in four structural slices separated by southwesterly directed thrust faults (Figure 4). The upper three fault slices contain only Eagle Bay rocks, while the lowest slice comprises Eagle Bay strata structurally overlain by rocks of the Fennel Formation.

Rea gold discovered a silver/zinc orebody in mafic/felsic volcanics 50 km to the south of the Birch Claims which appear to overlie the sericitic phyllites outcropping on the Birch claims. Minnova, working under option have proven 1.02 million tonnes grading 1.45 g/t Au, 727.5 g/t Ag, 2.89% Zn, 3.2% Pb and 1.16% Cu after 31 drill holes (5,860m). A further zone is being worked on by Rea Gold, with 0.2Mt grading 6.5 g/t Au, 73.3 g/t Ag, 2.25% Zn, 2.14% Pb and 0.53% Cu. The Homestake Deposit, in the same area was put into minor production 1935-41 (7,670 tonnes) yielding 361 oz Au and 281,369 oz Ag along with economic grades of Cu, Pb and Zn. The deposit is hosted by intensely altered and sheared sericite schists (similar to those outcropping on the Birch claim) and mineralization is in barite lenses that overlie volcanics and intrusives. Proven reserves are 877,000t at 6 g/t Ag and 0.028 g/t Au with associated Pb, Zn and Cu.



**LEGEND**

**MIOCENE**  
 [Mb] Basalt

**CRETACEOUS**  
 [Kg] Granite, granodiorite

**PALEOZOIC**  
 [F] Fennell Fm. - Basalt, tuffite, limestone  
 [EB] Eagle Bay Fm. - Rhyolite ash flows, tuffite  
 [S] Sicanous Fm. - Black Shale, limestone.

After Campbell & Tipper, 1971; Schiarizza & Pross, 1987

**HOMEGOLD RESOURCES**

**BIRCH GROUP**

**REGIONAL GEOLOGY**

0 1 0 1 2 km

82M/12V 1:100,000

**FIGURE 4**



More recently, in similar tectonic and stratigraphic setting the Kudz Ze Kayah and Wolverine are two exciting new volcanogenic massive sulphide discoveries in the Finlayson Lake area of the southern Yukon. Cominco's Kudz Ze Kayah, found in 1994, has reserves of 11.3 million tonnes of 6% Zn, 1% Cu, 1.3% Pb, 125 g/t Ag and 1.3 g Au. Westmin/Atna's Wolverine now has a geological inventory of 5.311 million tonnes of 1.81 g/t Au, 359.1 g Ag, 12.96% Zn, 1.41% Cu and 1.53% Pb, with plenty of room for more tonnage.

The host geologic province for these Early Mississippian, high-precious metal-VMS deposits is part of the Yukon Tanana Terrane and consists of meta-rhyolites, marine metasedimentary rocks and intermediate to mafic metatuffs. Besides the crucial Early Mississippian rocks that host the volcanogenic massive sulfide deposits, the terrane is characterized by pre-Mississippian continentally-derived siliciclastic metasediments. Early Mississippian intrusions that are coeval and probably cogenetic with the volcanic stratigraphy, Pennsylvanian and Permian limestone, Permian volcanic and plutonic rocks and cross-cutting Early Jurassic plutons.

## PROPERTY GEOLOGY

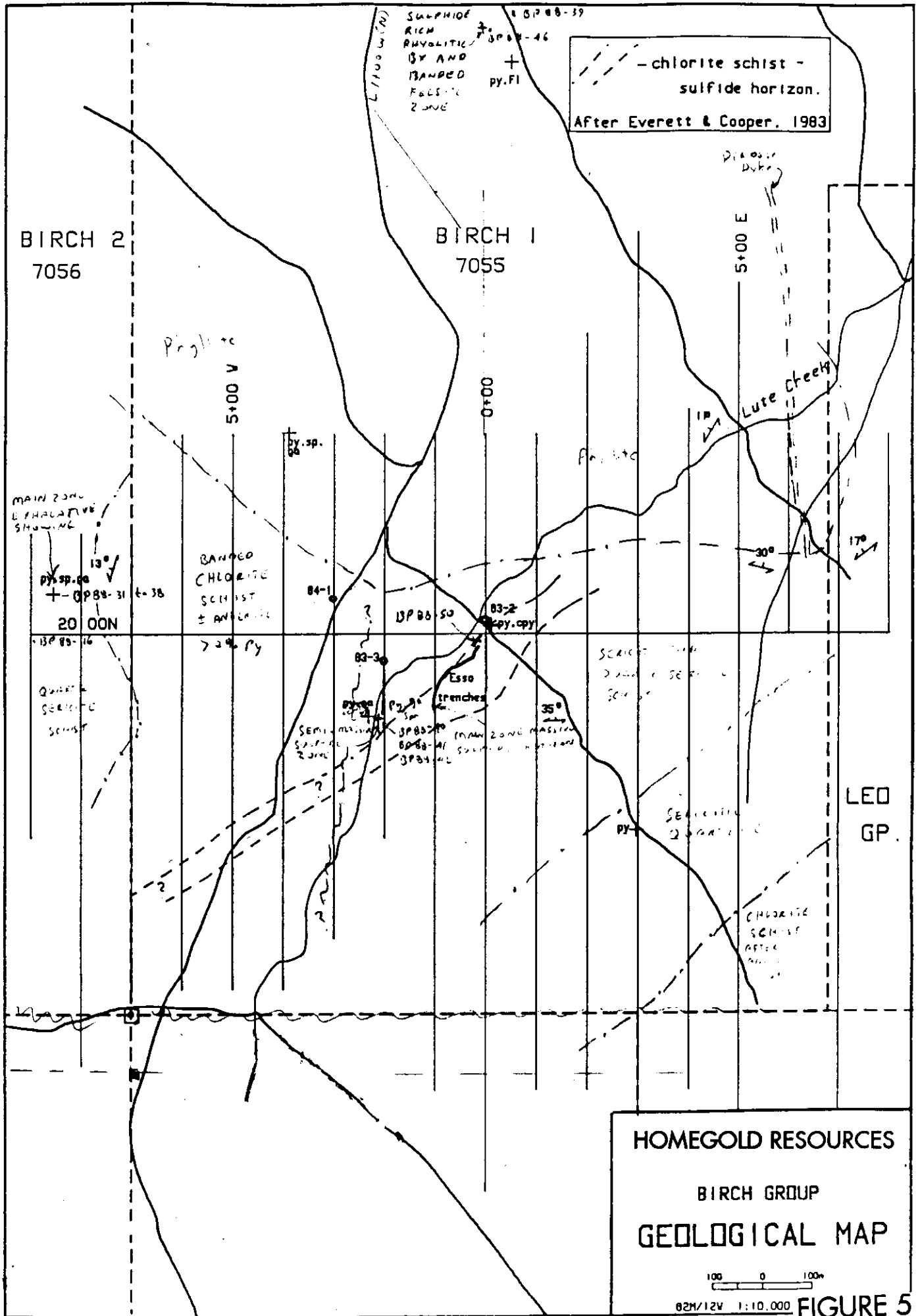
### Geology

The Birch claims are underlain almost entirely by sheared Eagle Bay Assemblage rocks. Geological mapping by Esso Minerals (Everett & Cooper, 1983) indicates that the rocks strike northeasterly and dip northwesterly at low angles (Figure 4). Strong schistosity obscures the original fabric of the rocks. On careful examination quartz eyes can frequently be seen, suggesting that the parent rocks were probably rhyolites. Pyrite, sericite and chlorite are ubiquitous over most of the property, much more so, than in other areas hosting Eagle Bay rocks. (Vollo, 1988). The abundance of pyrite has led to the development of noticeably rusty soils.

Two phases of regional deformation and metamorphism appear to have altered the originally mainly rhyolitic units into a sequence of greenschist facies schistose rocks of varying composition. At least ten distinct horizons underlie the property. The youngest schist units are located on the west side of the property, with progression down section to the oldest units located on the eastern extremity of the property (Figure 4). A diabase dyke up to 10 metres thick cuts all units and trends northerly roughly paralleling Line 6+00E. All the above units comprise a relatively flat lying plate with apparent bedding striking between 035° and 060° with northwest dips varying between 10 and 35 degrees.

The units mapped on the property, going from west to east are as follows:

1. **Sericitic to quartz-sericite ± chlorite schist**  
These interbedded units range from yellow to pale green in colour depending on chlorite content and are highly schistose. This unit usually contains 1 to 5% quartz eyes.
- 2,3. **Exhalative Bands and Carbonate Horizon**  
These two units are interbedded with the sericitic schists. Both units were newly documented in 1988 and are well mineralized with pyrite, chalcopyrite, galena and sphalerite, forming a stratabound horizon.
4. **Chlorite schist**  
This unit covers an extensive area between line 7+00W and the main zone massive sulfide showing exposed in trenches between line 1+00W and line 0+00 (Figure 4). The chlorite schist is dark green coloured, banded with lamellae of chlorite, feldspar, quartz, ± ankerite. This unit is commonly well mineralized with pyrite. Galena and sphalerite occur primarily in bands of heavy pyrite mineralization. A new showing was discovered in 1988 within this unit to the west of the main zone massive sulfide horizon.



5. **Main Zone Massive Sulfide Horizon**

Massive pyrite was discovered by the construction of a logging road at Line 0+00 (and this horizon was detected by the Dighem airborne survey in 1979. Subsequent trenching by Esso Minerals defined an apparently conformable bed of medium to coarse granular pyrite, 25 to 35 cm thick, containing anomalous values of lead, zinc, copper, silver and gold. The massive sulfide horizon has a 35 cm thick hanging wall and 35 cm thick footwall zone of semi-massive banded pyrite. Chalcopyrite, galena and sphalerite are disseminated throughout the massive pyrite zone and along quartz rich bands in the banded semi-massive hanging wall and footwall zones. This horizon is located within the Chlorite Schist unit near its lower contact with sericitic to quartz-sericite schist units.
6. **Sericitic Quartzites**

This unmineralized massive unit is composed of siliceous sediments, probably quartzite, and thin felsic (rhyolitic to dacitic) flows. Quartz eyes were noted locally. Sericite occurs as thin sheets between quartzite bands. The unit has a distinctive grey-yellow to pink colouration. This unit has an apparent thickness of approximately 130 metres and it conformably overlies a sequence of mineralized and banded quartz-sericite schist.
7. **Chlorite Schist**

This dark green chlorite schist unit is distinguished from the banded chlorite schist located on the western half of the property. This chlorite schist has an gneissic texture. It is dark green coloured and may be a metamorphosed andesitic breccia. Remnant chloritic fragments are found along cleavage planes.
8. **Phyllite**

The area located approximately 150 metres north of the L20+00N baseline is underlain by a variety of phyllitic schists. The phyllites are mainly grey green in colour and have a vitreous glassy sheen and soapy texture.
9. **Rhyolite Breccia**

The 1988 induced polarization survey located a significant chargeability anomaly along L1+00W between 28+50N and 31+50N. Prospecting and trenching uncovered a silicified zone consisting of quartzites, quartzose schists, quartz veins and rhyolite breccias. The rhyolite breccia is a light grey coloured siliceous unit containing angular cherty fragments up to 5 mm in diameter. Pyrite and traces of pyrrhotite are finely disseminated throughout the rock and along the breccia fragment rims. North of the rhyolite breccia is a series of quartz veins and creamy quartzites or quartz flooded sericite schists. Disseminated pyrite ranges from trace to 5% in this section.
10. **Orthogneiss**

This unit is located just south of the Birch claims. It is a light grey unit of granodioritic composition. The outcrop occurrences exhibit a massive appearance but in areas of shearing this dramatically changes to a laminated form.

## MINERALIZATION and DIAMOND DRILLING

Three new mineralized zones were located during the 1988 exploration program on the Birch claims. Soil sampling and induced polarization surveys conducted in 1988 and 1990 indicate that all of these zones extend significantly beyond the presently limited exposures. The Main Zone Massive Sulfide horizon discovered and investigated by Barrier Reef Resources and Esso Resources between 1979 and 1984 was more precisely defined by the 1988 induced polarization survey. This survey also indicated that probably only one previous diamond drill hole drilled by Esso intersected the Main Zone Massive Sulfide horizon. The potential of this zone remains largely untested. A well defined strike length of 400 metres is indicated and the faulted western extension of the main Zone Massive Sulfide horizon may be offset to the south.

A diamond drilling program consisting of nine holes of IAX core (thinwall standard but of BQ equivalent size) for a total of 309.5 m \*1,015 ft.) were drilled in 1990. Contract services were provided by Cancor Drilling of Courtenay, B.C. Table III is a summary of the drilling in three major areas:

**TABLE III**  
**1990 Drill Hole Summary**

| Hole No. | Strike | Dip   | Length (m) | Target  |
|----------|--------|-------|------------|---|
| B90-1    | 145°   | -56.5 | 20.0       | Exhalative zone                                 |
| B90-2    | 145°   | -75.5 | 20.5       | Exhalative zone                                 |
| B90-3    | 155°   | -75.5 | 25.0       | Exhalative zone                                 |
| B90-4    | 155°   | -50.1 | 20.1       | Exhalative zone                                 |
| B90-5    | 145°   | -70.0 | 39.0       | Exhalative zone                                 |
| B90-6    | 145°   | -47.0 | 39.5       | Exhalative zone                                 |
| B90-7    | 000°   | -51.5 | 39.8       | L6+00W IP Chargeability high                    |
| B90-8    | 242°   | -47.0 | 40.0       | L6+00W IP Chargeability high                    |
| B90-9    | 280°   | -46.5 | 65.7       | IP Chargeability high & backhoe trench (A grid) |

The three mineralized areas discovered in 1988 and the Main Zone Massive Sulfide horizon exhibit four distinct types of mineralization. The most significant of the showings found in 1988 is the exhalative band located in the western portion of the property at Line 8+60W station 20+70N (Figure 4 and 6). This showing is exposed in a ten metre long trench. A 0.3m to 1.2m thick white quartz-carbonate Exhalative Unit occurs in an intensely sheared zone. The Exhalative unit is well mineralized with coarse grained galena, sphalerite, chalcopyrite and pyrite. It is overlain by sericitic and quartz-sericite schists and underlain by sericite schists. The entire outcrop and soils above the outcrop are intensely manganese stained. The attitude of the Exhalative Band is 055°/25° NW. Highly anomalous soil samples taken along Lines 8W and 9W indicate that the zone extends along strike for a distance of approximately 100 metres. Rock chip samples taken across the section of all rock types from the hanging wall to the footwall are summarized below:

**TABLE IV****1990 Chip Samples from the Trench on the Exhalative Zone**

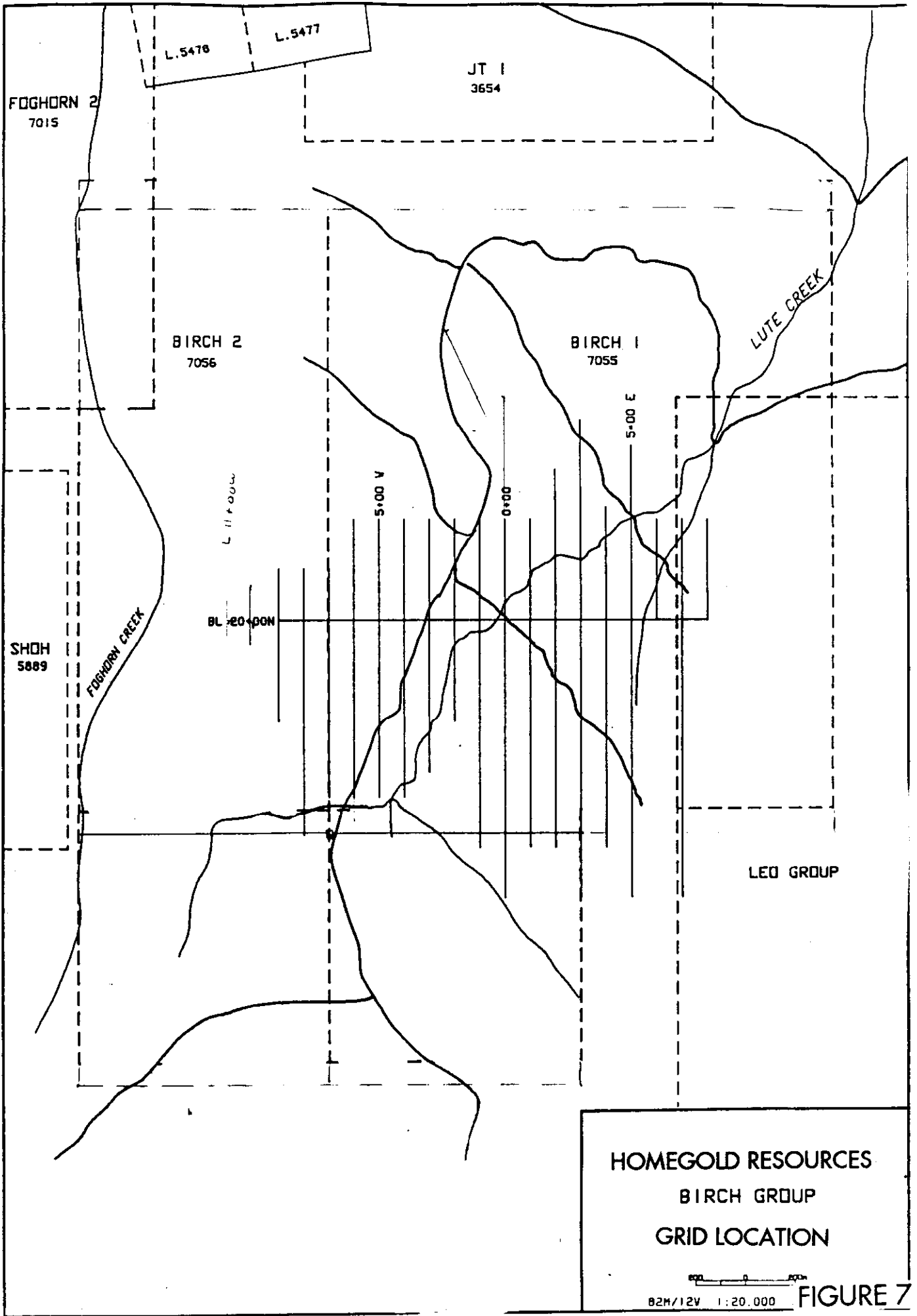
| <b>Sample No.</b> | <b>From (m)</b> | <b>To (m)</b> | <b>Rock Description</b>            | <b>Gold ppb</b> | <b>Silver ppm</b> | <b>Lead ppm</b> | <b>Zinc ppm</b> | <b>Copper ppm</b> |
|-------------------|-----------------|---------------|------------------------------------|-----------------|-------------------|-----------------|-----------------|-------------------|
| 511026            | 0.0             | 1.2           | Sericite schist                    | 50              | 1.8               | 70              | 132             | 248               |
| 511027            | 1.2             | 3.5           | Qtz-Ser. schist                    | 30              | 1.0               | 32              | 118             | 639               |
| 511028            | 3.5             | 4.5           | Rusty schist w qtz & carb veinlets | 85              | 2.8               | 214             | 318             | 303               |
| 511029            | 4.5             | 5.5           | Qtz-carb w/strong py               | 45              | 2.6               | 324             | 214             | 170               |
| 511030            | 5.5             | 6.5           | Qtz-carb w/strong py tr malachite  | 120             | 2.4               | 292             | 666             | 292               |
| 511031            | 6.5             | 7.5           | Qtz-carb w/strong py               | 110             | 9.4               | 1545            | 2940            | 276               |
| 511032            | 7.5             | 8.5           | Qtz-carb w/strong py               | 205             | 9.0               | 866             | 3260            | 595               |
| 511033            | 8.5             | 9.5           | Qtz-carb w/strong py               | 120             | 5.8               | 640             | 4270            | 698               |

A backhoe trench at L8+00W, 21+00N was dug exposing deeply weathered bedrock at about 2.3 metres depth. The following table outlines samples of rock chips collected from the trench wall.

**TABLE V****L8+00W, 21+00N Trench Samples**

| <b>Sample No.</b> | <b>Rock Description</b>  | <b>Gold ppb</b> | <b>Silver ppm</b> | <b>Lead ppm</b> | <b>Zinc ppm</b> | <b>Copper ppm</b> |
|-------------------|--|-----------------|-------------------|-----------------|-----------------|-------------------|
| 511023            | Sericite schist - bottom of the trench   | 55              | 7.4               | 58              | 60              | 328               |
| 511024            | Rusty red heavily weathered quartzose material   | 1020            | 10.0              | 206             | 78              | 1375              |
| 511025            | Grey-white weathered material w/quartz vein fragments approximately 1m above trench bottom |                 |                   |                 |                 |                   |

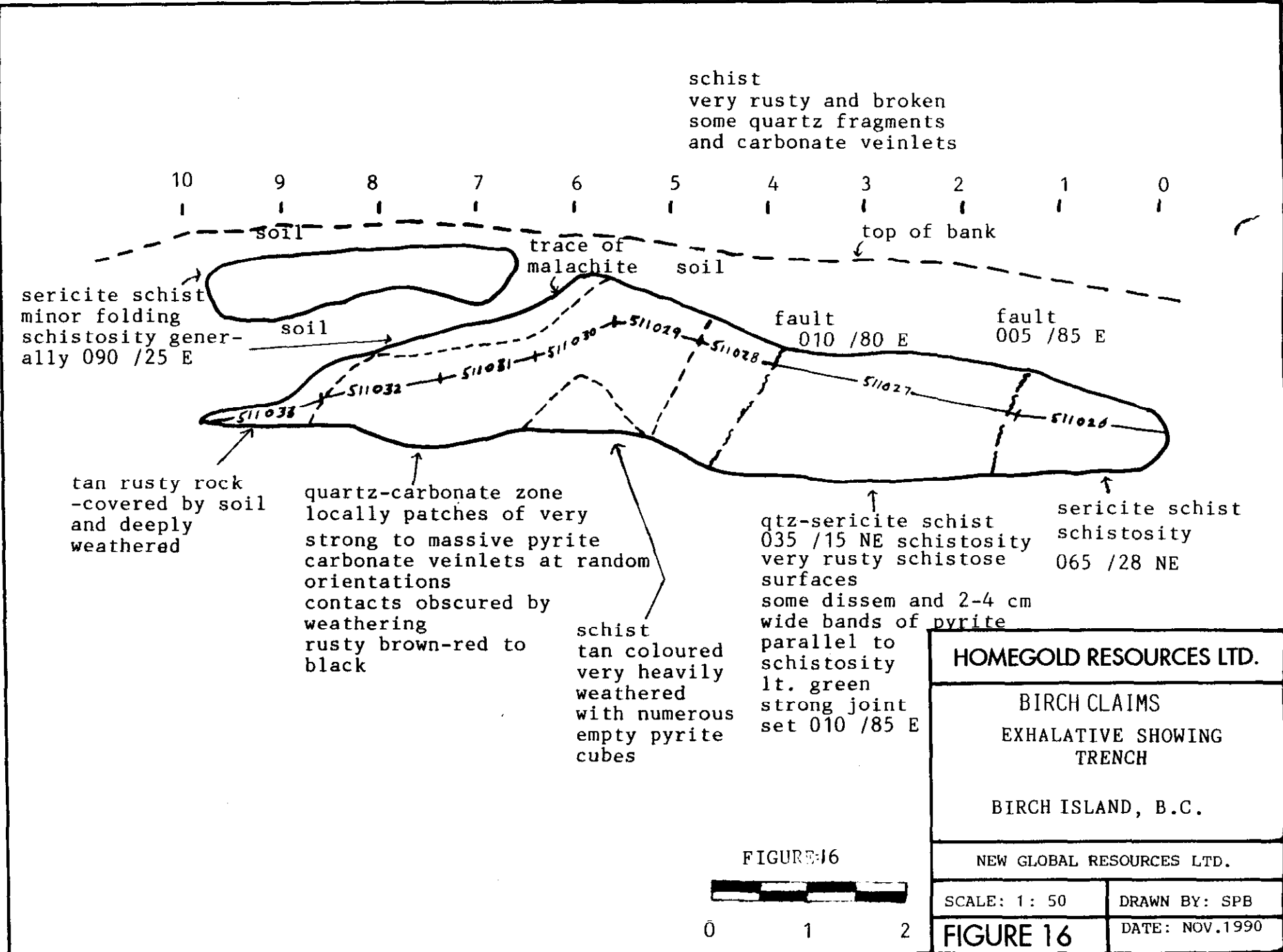
The majority of the diamond drilling was concentrated in the area of the Exhalative showing.



HOMEGOLD RESOURCES  
BIRCH GROUP  
GRID LOCATION

82M/12V 1:20,000

FIGURE 7





Diamond drilling of the Exhalative showing consisted of six IAX drill holes which all intersected significant widths massive pyrite with some minor chalcopyrite, sphalerite and galena (Figures 9 to 11). The pyrite zones dip moderately to steeply northwest and were from 1.5 to 5.0m thick in drill core. These holes were drilled from three different set-ups along the road with two holes on each set-up.

The two holes collared at L8+00W also intersected a narrow, steeply dipping quartz vein. This quartz vein does not contain any anomalous Au/Ag values.

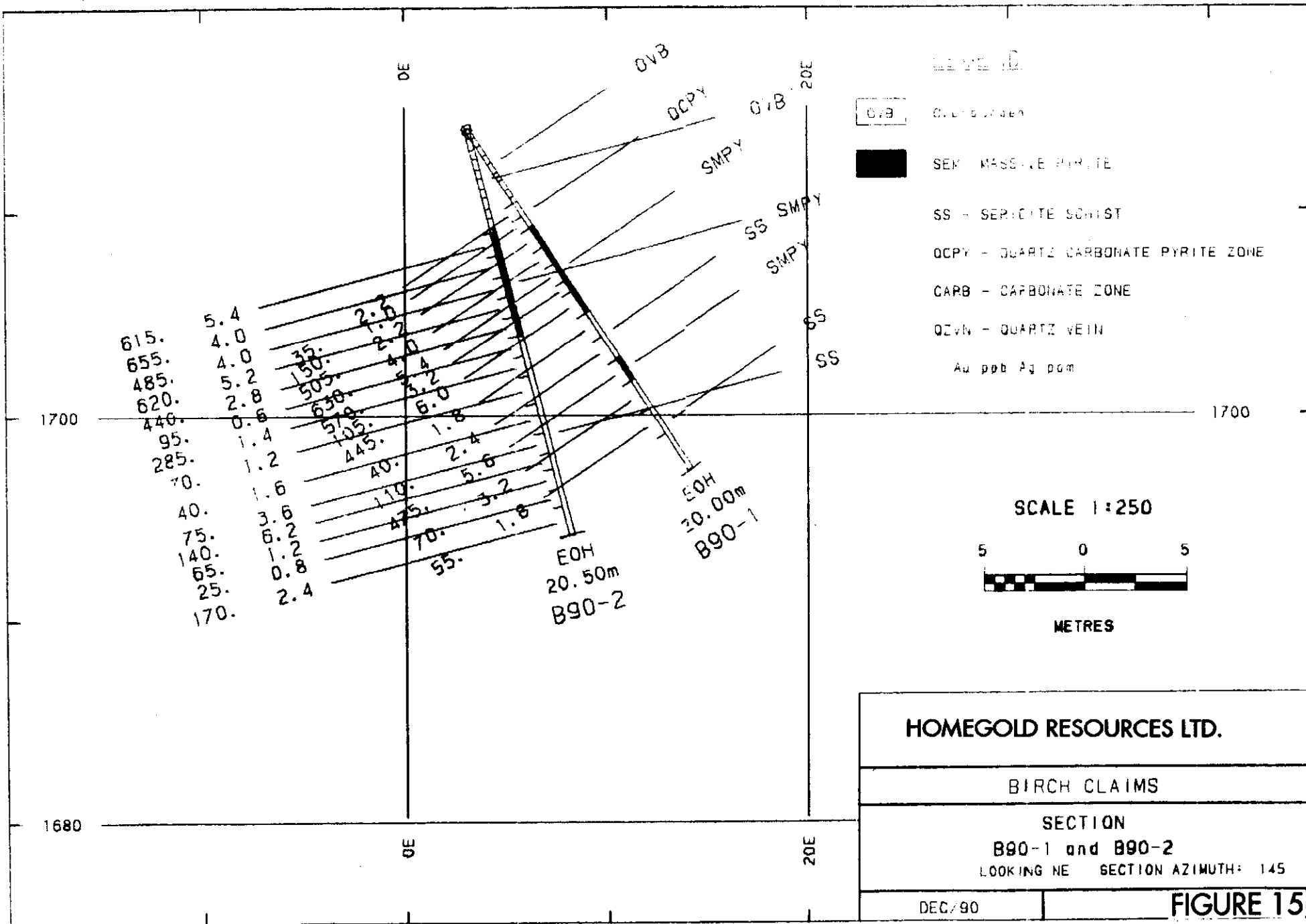
The massive pyrite zones are moderate to strongly anomalous in gold, silver and copper and weakly anomalous in lead and zinc. The highest values are in hole 90-6 where 1108 ppb gold and 21.3 ppm silver over 1.9m was intersected. This is the hole nearest to the trench on L8+00W that returned 1020 ppb gold and 10.0 ppm silver in a sample of very highly weathered bedrock. Also anomalous is the 5.2m intersection in B90-2 with 1961 ppm Cu and 566 ppb gold over this drill thickness.

Holes B90-7 and B90-8 were drilled to test the IP chargeability highs outline on L6+00W. Hole B90-7 was targeted toward a resistivity high coincident with a chargeability high near 25+00N. The hole intersected chlorite-sericite schists healed by quartz in some areas and calcite/dolomite in others. This healing of fractures by calcite/dolomite is the probable cause of the resistivity high. The carbonate did not react with acid in the field and was logged as gypsum. Later petrographic evidence indicated it to be calcite and dolomite. Diamond drill hole B90-8 was drilled to check the chargeability high that is indicated at the probable fault scarp at the base of the slope of a small (6m) hill. The hole was drilled perpendicular to this slope to intersect the structure. Neither of these holes returned anomalous values.

The 1988 program outline an induced polarization chargeability high on L1+00W area 29+50N. Follow-up trenching and sampling found a wide silicified belt associated with rhyolite breccia. This was sampled and mapped by hand-dug pits that indicated increased pyrite associated with the silicified sections.

The "A" grid was established in 1990 to systematically test this area. The induced polarization survey indicates a chargeability high in the area of the hand dug pits on L3A near 2+50N and L2A near 31+00N.

A trench was dug along the edge of the road through the lower part of the "A" grid to allow a more continuous sample across the silicified/rhyolite breccia zone. This zone was sampled for 28.9m with a 4.2m gap covered by overburden. This trench is relatively perpendicular to the trend of known showings and allows a better understanding of this area than from the previous discontinuous hand-dug pits. Sample results from the 1990 trench are shown in Table VI.



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BIRCH CLAIMS

SECTION

B90-1 and B90-2

LOOKING NE SECTION AZIMUTH: 145

DEC/90

FIGURE 15

TABLE VI

## Chip Samples in the "A" Grid Trench

| Sample No.   | From (m) | To (m) | Rock Description  | Gold ppb | Silver ppm | Lead ppm | Zinc ppm | Copper ppm |
|--------------|----------|--------|---|----------|------------|----------|----------|------------|
| 511001       | 0.0      | 3.9    | Chlorite-actinite schist<br>120°/10° NE   | 45       | 0.2        | 12       | 26       | 16         |
| 511002       | 3.9      | 6.9    | Quartzite with<br>schistosity over-printed  | 10       | 0.2        | 38       | 8        | 2          |
| 511003       | 6.9      | 7.6    | Quartzite with pyrite &<br>possible arsenopyrite                                  | 5        | 0.2        | 30       | 14       | 1          |
| 511004       | 7.6      | 8.3    | Quartz vein   | 5        | 0.2        | 40       | 26       | 1          |
| 511005       | 8.3      | 8.9    | Quartzite & quartz vein<br>with pyrite  | 5        | 0.2        | 22       | 8        | 1          |
| 511006       | 8.9      | 9.4    | Quartz-sericite schist  | 5        | 0.2        | 78       | 92       | 3          |
| 511007       | 9.4      | 11.0   | Quartz vein with pyrite<br>quartz feldspar<br>interbands small schist<br>sections | 5        | 0.6        | 24       | 14       | 5          |
| 511008       | 11.0     | 12.6   | Quartz with trace pyrite  | 5        | 0.2        | 32       | 4        | 2          |
| 511009       | 12.6     | 13.7   | Quartz flooded with 5%<br>pyrite  | 5        | 0.2        | 10       | 4        | 3          |
| 511010       | 13.7     | 14.8   | Quartz vein (bull quartz)<br>attitude unavailable                                 | 5        | 0.2        | 14       | 2        | 1          |
| No<br>Sample | 14.8     | 19.0   | Overburden  | -        | -          | -        | -        | -          |
| 511011       | 19.0     | 20.1   | Quartz & quartzite (bull<br>quartz & quartz flooding)                             | 5        | 0.2        | 10       | 2        | 2          |
| 511012       | 20.1     | 20.4   | Quartz vein   | 5        | 0.2        | 28       | 2        | 2          |
| 511013       | 20.4     | 20.6   | Schist 075°/60°N  | 5        | 0.2        | 2        | 106      | 3          |
| 511014       | 20.6     | 21.5   | Quartz vein (contact<br>parallel to schist @<br>075°/60°N)                        | 5        | 0.2        | 54       | 8        | 6          |
| 511015       | 21.5     | 22.9   | Quartzite with cherty<br>quartz breccia fragments                                 | 5        | 0.2        | 2        | 6        | 6          |
| 511016       | 22.9     | 23.9   | Quartzite with cherty<br>quartz breccia fragments                                 | 5        | 0.2        | 18       | 6        | 3          |
| 511017       | 23.9     | 25.0   | Sericite schist<br>(115°/15°N schistosity)  | 10       | 0.2        | 26       | 18       | 10         |
| 511018       | 25.0     | 25.5   | Quartz vein   | 5        | 0.2        | 58       | 14       | 3          |
| 511019       | 25.5     | 27.3   | Tan sericite schist   | 5        | 0.2        | 48       | 32       | 8          |
| 511020       | 27.3     | 27.8   | Quartz vein   | 5        | 0.2        | 24       | 18       | 3          |
| 511021       | 27.8     | 28.9   | Sericite schist (partially<br>buried)   | 10       | 0.2        | 24       | 22       | 5          |

Overburden exposed in the bottom of the trench beyond 28.9 metres.

Also a small pit (see Figure 7) was dug to bedrock along the main logging haul road.

**TABLE VII**

**Pit at 4+25A, 3+25N**

| <b>Sample No.</b> | <b>Rock Description</b>  | <b>Gold ppb</b> | <b>Silver ppm</b> | <b>Lead ppm</b> | <b>Zinc ppm</b> | <b>Copper ppm</b> |
|-------------------|--|-----------------|-------------------|-----------------|-----------------|-------------------|
| 511022            | Grab Sericite schist with minor pyrite and strong rusty soil cap | 55              | 0.2               | 20              | 50              | 4                 |

Diamond drill hole B90-9 was drilled at an azimuth of 280° to investigate the trend outlined in the trench, pits and IP geophysics. This hole intersected sericite schists with a section of quartz veinlets and silicification from 27.0 to 31.5m. Coarse grained pyrite in quartz veinlets occurs from 28.8 to 29.4m. This hole does not contain any anomalous mineral values.

Kuroko-type volcanogenic massive sulfide ore deposits form in submarine caldera environments. The deposits are formed at the mixing point of cold seawater and fissure-fed hydrothermal fluids. The elements that formed the ore deposits are derived from the leaching of surrounding volcanic and sedimentary rocks by descending seawater and magmatic fluids. Due to the frequently episodic nature of the fissure openings combined with sealing by metal precipitation from ascending fluids, there is often more than one ore deposit or mineral zone within a region or stratigraphic interval. Also because of changes in the deposition, due to changing fluid composition with time and sub-surface alteration of previously deposited minerals, these deposits can have a variety of mineral assemblages.

Kuroko deposits have a large number of typical ore types. Kuroko ore (black ore) is a fine grained sphalerite-galena-pyrite and barite rich ore and forms as "chimneys" and fine layers above and adjacent the hydrothermal vents. Later tectonic movement during late and post deposition commonly due to rhyolite dome formation often cause brecciated and synsedimentary deformation textures. As later fluids continue to rise through the early mineralization, the overlying rocks insulate the lower portions of these deposits to allow higher temperatures. These higher temperatures and later fluids are partially responsible for recrystallization to coarser grained black ore, then development of chalcopyrite-rich yellow ore and finally a pyrite rich ore. There is also commonly a small amount of gold and silver deposited with these deposits, but separate precious-metal rich lenses within certain stratigraphic intervals also occur.

Multiple fissures feeding into these caldera environments can form several isolated deposits and depending on the length of time these fissures remain hydrothermally active a variety of stacked ore lenses can form. These processes appear to have been active in the area of the Birch claims. The next stage of exploration is to locate the associated sulfide lenses with greater economic significance and to look at the lateral stratigraphic equivalents of the known massive sulfides.

**LEGEND**  
 Sample interval - 50 m  
 Sample horizon - B  
 Background - 75 ppm  
 Contours at 150, 250, 400 ppm  
 After J.M. Dawson and  
 1981 1988 work

BIRCH 2  
7056

BIRCH 1  
7055

L 8700  
L 8400

5+00 V

0+00

5+00 E

MAIN ZONE  
EVALUATIVE  
HORIZON

50  
50

20 00N

GOLD ZONE  
ANOMALY

MAIN  
ZONE MASSIVE  
SULPHIDE  
HORIZON

8200

BIRCH 4  
7058

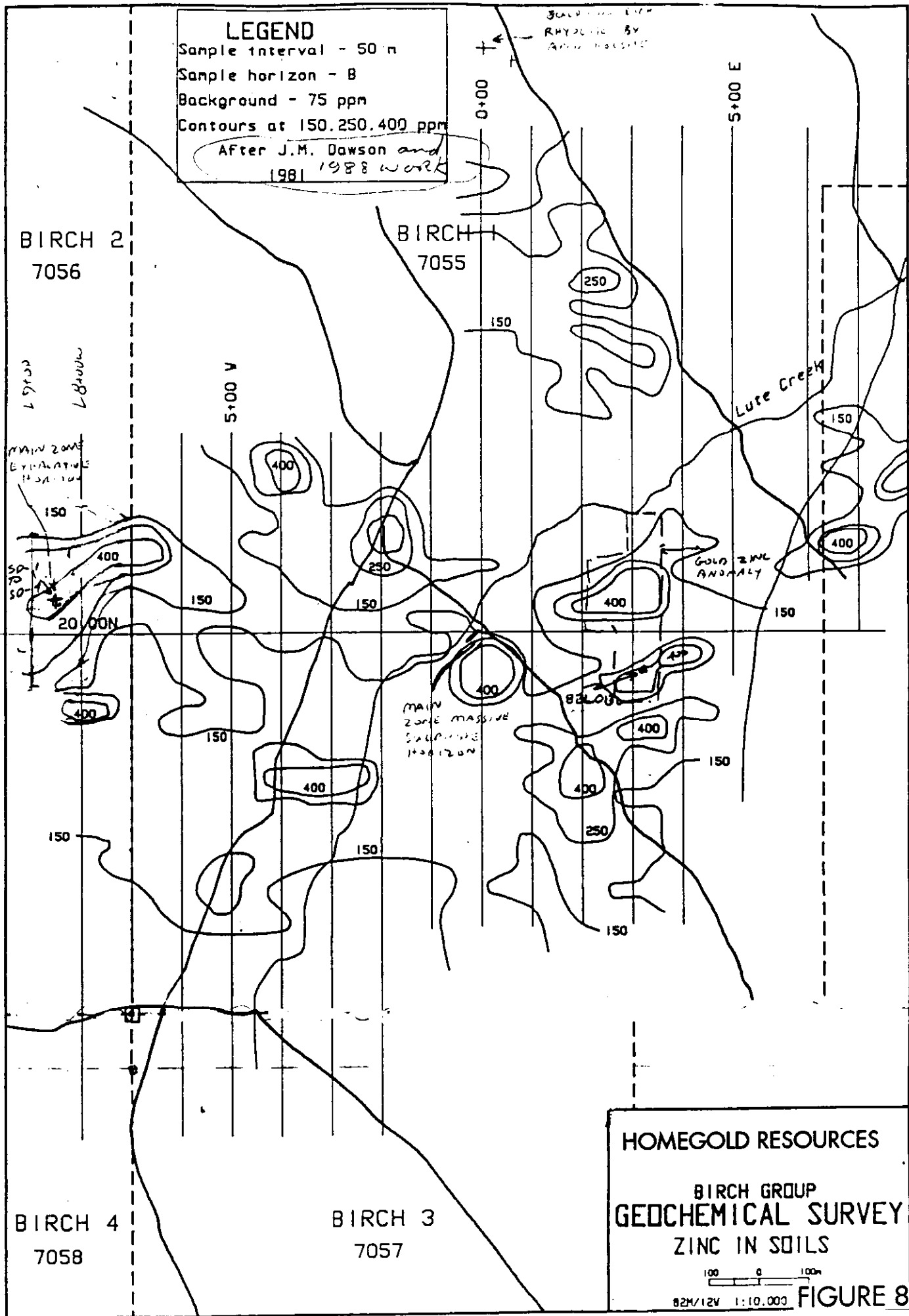
BIRCH 3  
7057

Lute Creek

**HOMEGOLD RESOURCES**  
**BIRCH GROUP**  
**GEOCHEMICAL SURVEY**  
**ZINC IN SOILS**

100 0 100m

82M/12V 1:10,000 **FIGURE 8**



## PETROLOGY

A preliminary fifteen specimen suite was examined in thin and polished section by J. T. Shearer in 1988. The suite consisted of six massive pyrite, four sericite (muscovite) schist, two chlorite schist, two pervasive alteration zones and one quartz vein.

The massive pyrite specimens all are characterized by highly fractured, irregular, large pyrite lenses which have many very small to 0.8mm angular gangue inclusions. Relatively, uniformly disseminated 0.1 to 0.4m long irregular blebs of chalcopyrite occur throughout the pyrite lenses. Often the chalcopyrite preferentially forms along microfractures. In rare instances, traces of pyrrhotite occur in the chalcopyrite inclusion and exhibit straight, smooth grain boundaries. Sphalerite content is highly variable. It occurs in all massive pyrite specimens but ranges from microscopic traces to several percent in volume. Specimens where the chalcopyrite or sphalerite content is elevated (Samples B90-5, 19.2; B90-5, 18.1) tend to form isolated larger grains or lenses of these minerals. The larger sphalerite grains and lenses are characterized by abundant very small (less than 0.03mm) elongated exsolution grains of chalcopyrite.

Commonly, the massive sulfide zones are associated with recrystallized, bladed (up to 0.6mm long) quartz and plagioclase gangue. This contrasts with the normally finer grained nature of the sulfide deficient host rocks where quartz grain size typically average around 0.1mm in diameter.

SULPHIDE  
RICH  
BY AND  
REUSE

**LEGEND**  
Sample Interval - 25, 50 m  
Sample Horizon - 'B'  
Background - 25 ppb  
Contours - 100, 200, 500 ppb  
After Everett & Cooper, 1983

BIRCH 2  
7056

BIRCH 1  
7055

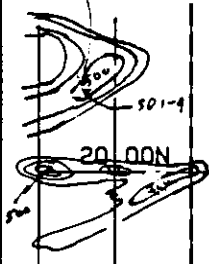
5+00 E

5+00 V

0+00

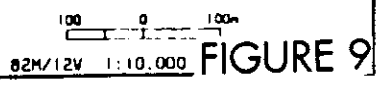
Lure Creek

MAIN ZONE  
EVALUATIVE  
SHOWING



MAIN ZONE  
MASSIVE  
SEMIMASSIVE  
SULPHIDE  
ZONE

**HOMEGOLD RESOURCES**  
BIRCH GROUP  
**GEOCHEMICAL SURVEY**  
LEAD IN SOILS



11200 W

## SOIL GEOCHEMISTRY

A limited program of soil geochemistry was performed in 1990 along lines L6+00W and L7+00W. These lines were chosen to test the possible extension of soil geochemistry anomalies from L8+00W and L9+00W defined during the 1988 program. Also L6+00W was extended to test two induced polarization chargeability highs defined in this program.

During the 1988 field program, a determination of anomalous values in soil was as follows:

**TABLE VIII**

**Soil Anomaly Strength Chart**

| <b>Anomaly Strength</b> | <b>Gold</b> | <b>Silver</b> | <b>Lead</b> | <b>Zinc</b> |
|-------------------------|-------------|---------------|-------------|-------------|
| Background              | 10 ppb      | 1.2 ppm       | 15-50 ppm   | 50-125 ppm  |
| Weak anomaly            | 10-40 ppb   | 1.2-2ppm      | 50-70 ppm   | 125-140 ppm |
| Moderate strength       | 40-100 ppb  | 2-4 ppm       | 70-100 ppm  | 140-400 ppm |
| High strength anomaly   | 100 ppb     | 4 ppm         | 100ppm      | 400 ppm     |

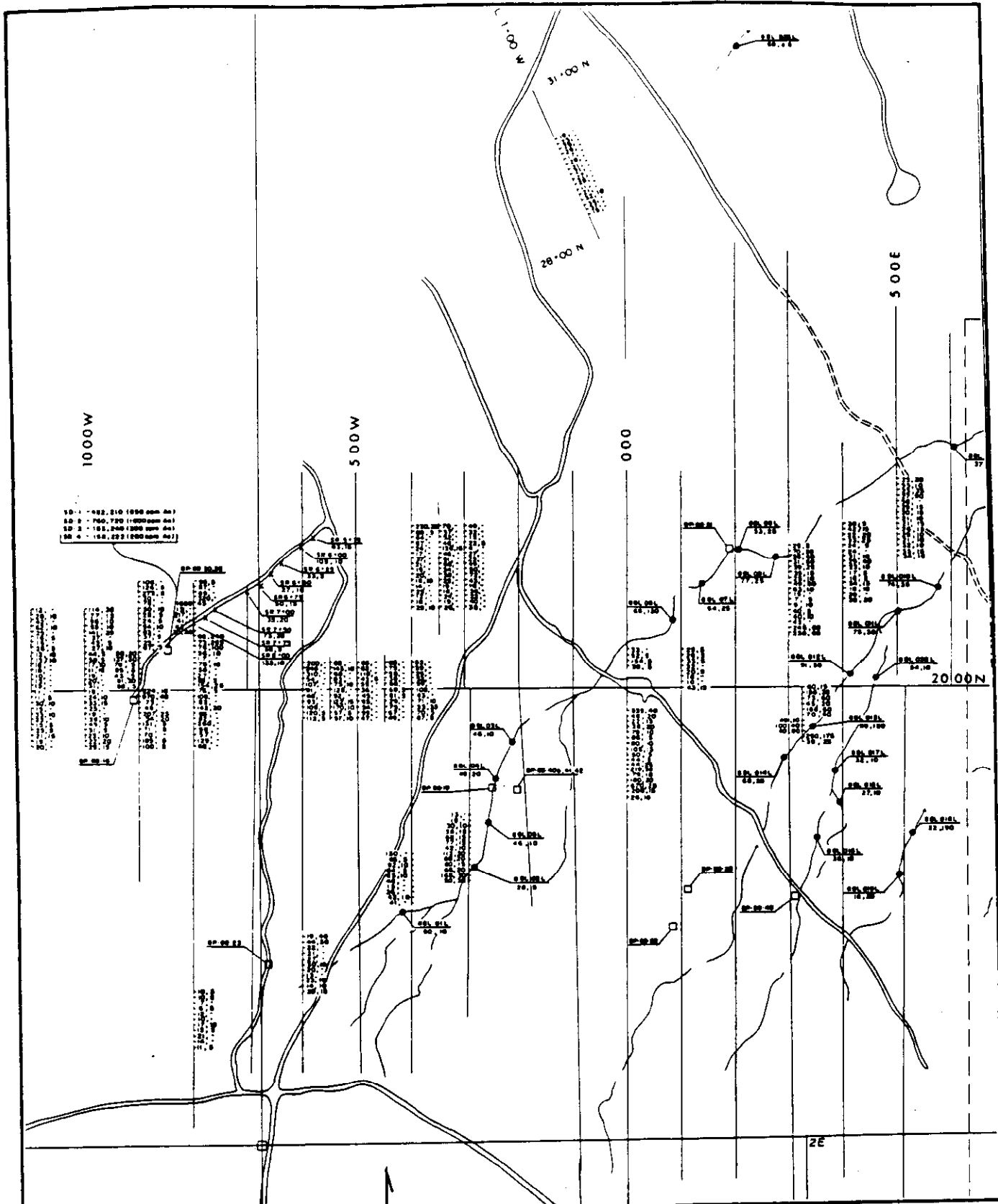
Not enough copper analyses are available to determine anomalous values.

The Exhalative zone is reflected by a strong gold-in-soil anomaly within a broad lead and zinc halo which extends downslope to the northwest. The gold-in-soil anomaly does not appear to extend to L7+00W, but a broad zone of lead, zinc and silver anomalies are discontinuously located between 20-60N and 21-30N. Also on L6+00W at 22+30N and 22+40N are coincident anomalous lead, zinc and silver values with up to 1,500 ppm zinc and 9.5 ppm silver. These are roughly coincident with a high induced polarization conductor. The lack of a gold and copper values in these areas suggest that they are a separate zone. This may be related to the silver, lead and zinc soil anomaly near L8+00W -21+60N which possibly reflects a base metal rich ("black ore") horizon of a typical Kuroko-type volcanogenic massive sulfide zone that often occur stratigraphically above the pyrite-chalcopyrite ("yellow ore") horizon. These sulfide horizons have been known to be separated by fine tuffaceous band at other volcanogenic massive sulfide deposits.

The anomalous values on L7+00W near 20+10N in gold, copper, lead and zinc do not appear to have any continuity to other areas.

Line 6+00W near 26+00N has enhanced gold anomalous values and a broad zinc anomaly with scattered moderate lead and silver values. This area should be followed up to determine the extent and significance of these values.





10 - 102, 210 (200 ppm Au)  
 11 - 740, 720 (1000 ppm Au)  
 12 - 102, 240 (200 ppm Au)  
 13 - 102, 220 (200 ppm Au)

**LEGEND**

- X - Soil sample
- - Silt sample
- - Rock sample

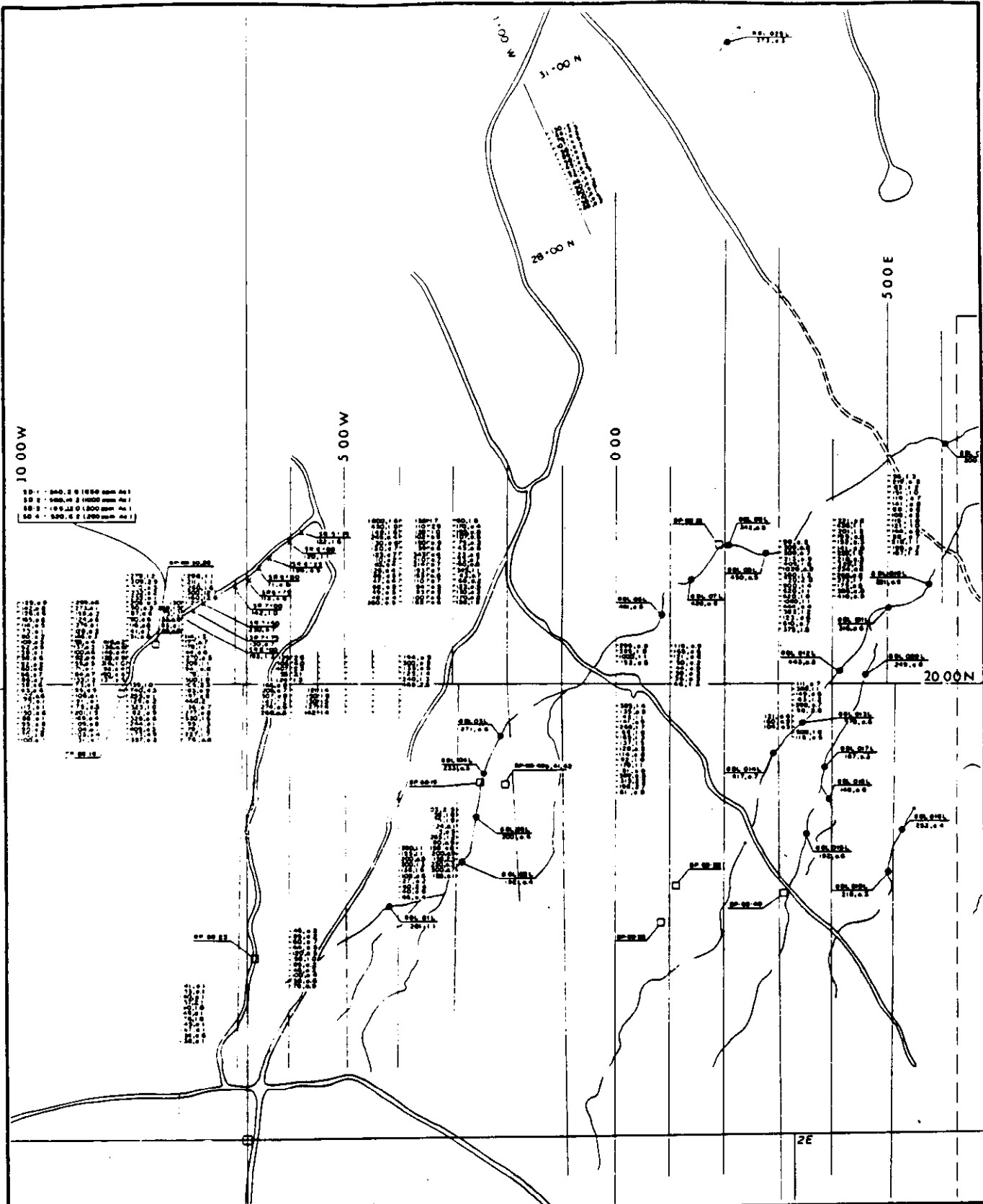
Pb Au  
 ppm ppb

After V.B. Lennan, 1988



NELS VOLLO, M.Sc., P.Eng.  
 CONSULTING GEOLOGIST  
**GEMSTAR RESOURCES LTD.**  
 BIRCH GROUP  
**GEOCHEMICAL PLAN**  
 LEAD - GOLD

82M/12V 1:10,000 **FIGURE 10**



10 - 1000 ppm Zn  
 10 - 1000 ppm Ag  
 20 - 2000 ppm Zn  
 20 - 2000 ppm Ag

**LEGEND**

- X - Soil sample
- - Silt sample
- - Rock sample

Zn ppm    Ag ppm

After V.B. Lennan, 1988



**HOMEGOLD RESOURCES**

**BIRCH GROUP**

**GEOCHEMICAL PLAN**

**ZINC - SILVER**

400 200 0 200 400 m

82M/12W 1:10,000 **FIGURE 11**

## GEOPHYSICS

Previous geophysical work on the property included a VLF EM survey completed over the main zone massive sulfide horizon by Barrier Reef Resources. This survey showed a very weak response. The low northwesterly dip of the zone, in combination with the north sloping topography and the acute angle of the Annapolis field to the zone, resulted in very poor coupling and therefore, weak response. A Horizontal Loop EM survey by Esso Minerals was relatively flat, also possibly due to poor coupling.

During June of 1988 Gemstar Resources Ltd. conducted an Induced Polarization (I.P.) geophysical survey to better define the limits of the main zone massive sulfide horizon and to re-evaluate a weak anomaly generated by an earlier I.P. survey at the north end of L0+00 between stations 26+00N and 29+00N.

A crew from Peter E. Walcott and Associates Ltd. also performed an induced polarization survey between September 29 and October 6, 1990. This was done in two areas: the "A" grid, where five lines were surveyed, and three lines near the Exhalative showing.

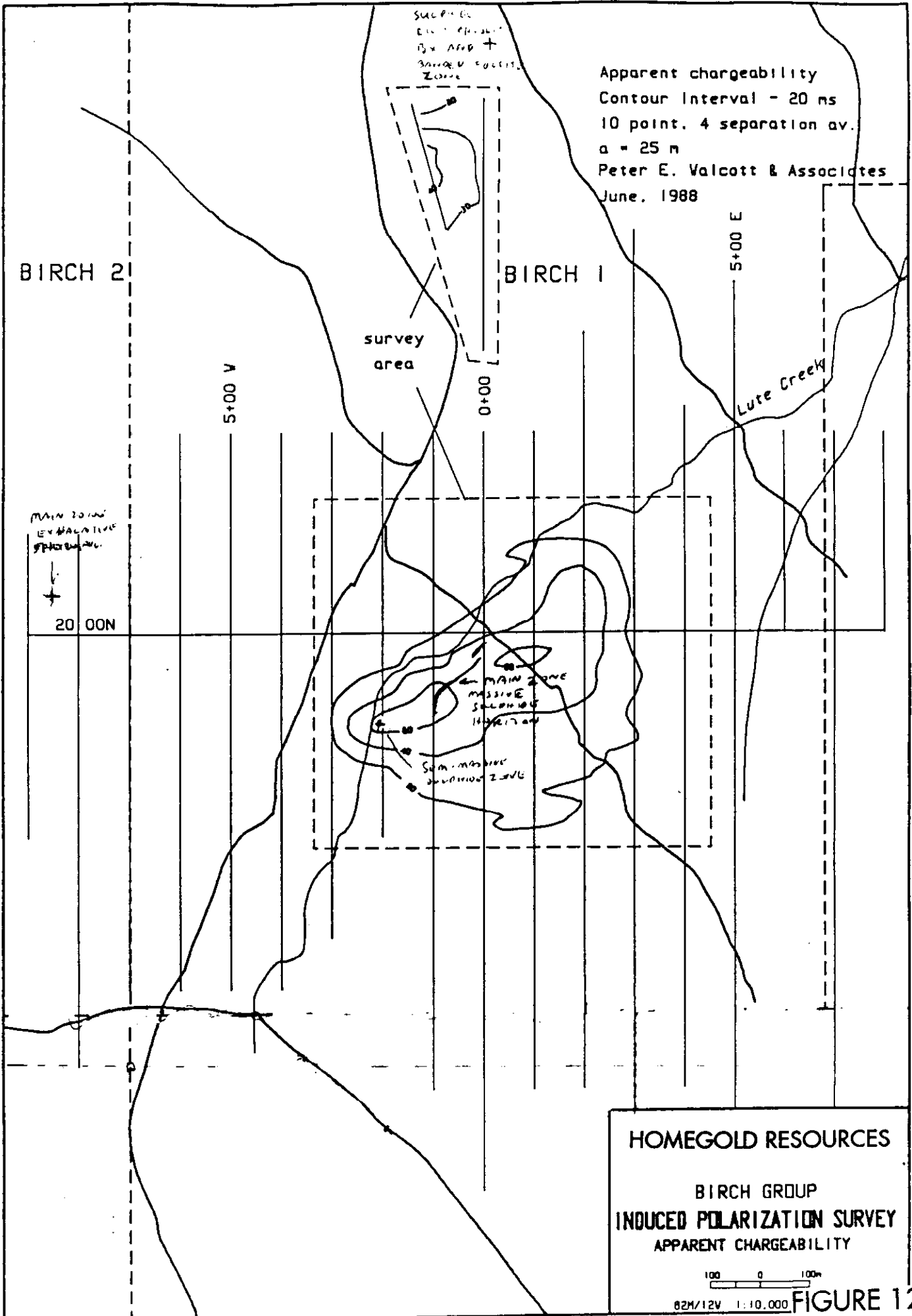
The dipole-dipole method was used with a 25 metre dipole and measuring the first to fourth separation. The apparent chargeability and resistivity were recorded and presented in contoured pseudo-sections. Also contoured plans of the 1988 data combined with data from this project were compiled and presented.

The survey was done over the "A" grid to follow-up on a strong chargeability response on line 1W from the 1988 survey and to cover the area of a series of pits in a silicified quartz rich zone. Results indicate that a moderate to strong chargeability response trends towards the northwest, a similar trend to the series of pits dug in 1988. This trend goes through line 3+00A near 2+25, and line 2+00A near 3+00. This anomaly is the target drilled in hole B90-9.

Induced polarization was also done over the projected extension of the Exhalative zone. The equipment failed on the last day due to rain and snow and only partial coverage of this area is available. Line 7+00W was extended to the south to determine the extent of a chargeability high from 16+25N to 19+25N. This is west of the main zone massive sulfide zone and may be an extension of this zone.

There is a series of higher responses near 21+00N on L8+00W (undefined due to incomplete data), 21+25N on L7+00W and 22+00 on L6+00. This response could be the easterly extension of the Exhalative showing that was drilled to the west in this project.

High chargeabilities with low resistivity between 23+00 and 23+75N on L7+00W and 24+75 and 25+50N on L6W also occur. The high resistivity on L6W near 25+00N could be due to quartz or calcite/dolomite healed fractures encountered in hole B90-7. Drill hole B90-8 was drilled to test the other part of the chargeability response.



**HOMEGOLD RESOURCES**  
**BIRCH GROUP**  
**INDUCED POLARIZATION SURVEY**  
**APPARENT CHARGEABILITY**  
 100 0 100m  
 82M/12V 1:10,000

**FIGURE 12**

## CONCLUSIONS and RECOMMENDATIONS

Polymetallic but mostly pyritic massive sulfide mineralization occurs in several areas within the Birch claims. Two of these zones, the Main Zone Massive Sulfide and the Exhalative Zone Massive Sulfide have been partially investigated by diamond drilling. These zones appear to have considerable strike length and down dip continuity. Only very limited drill testing has been completed and considerably more work is warranted to evaluate the gold potential of these zones.

The highly varied and rapidly changing nature of the volcanogenic massive sulfide targets in general, both in a lateral and vertical stratigraphic sense, suggest that many other targets remain to be tested on the Birch claims. These targets are indicated by the anomalous induced polarization and geochemical surveys conducted to date.

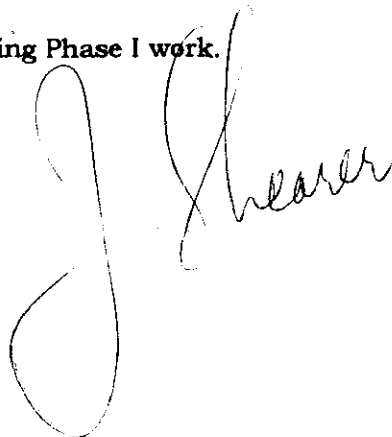
The following programs are recommended to further explore the property:

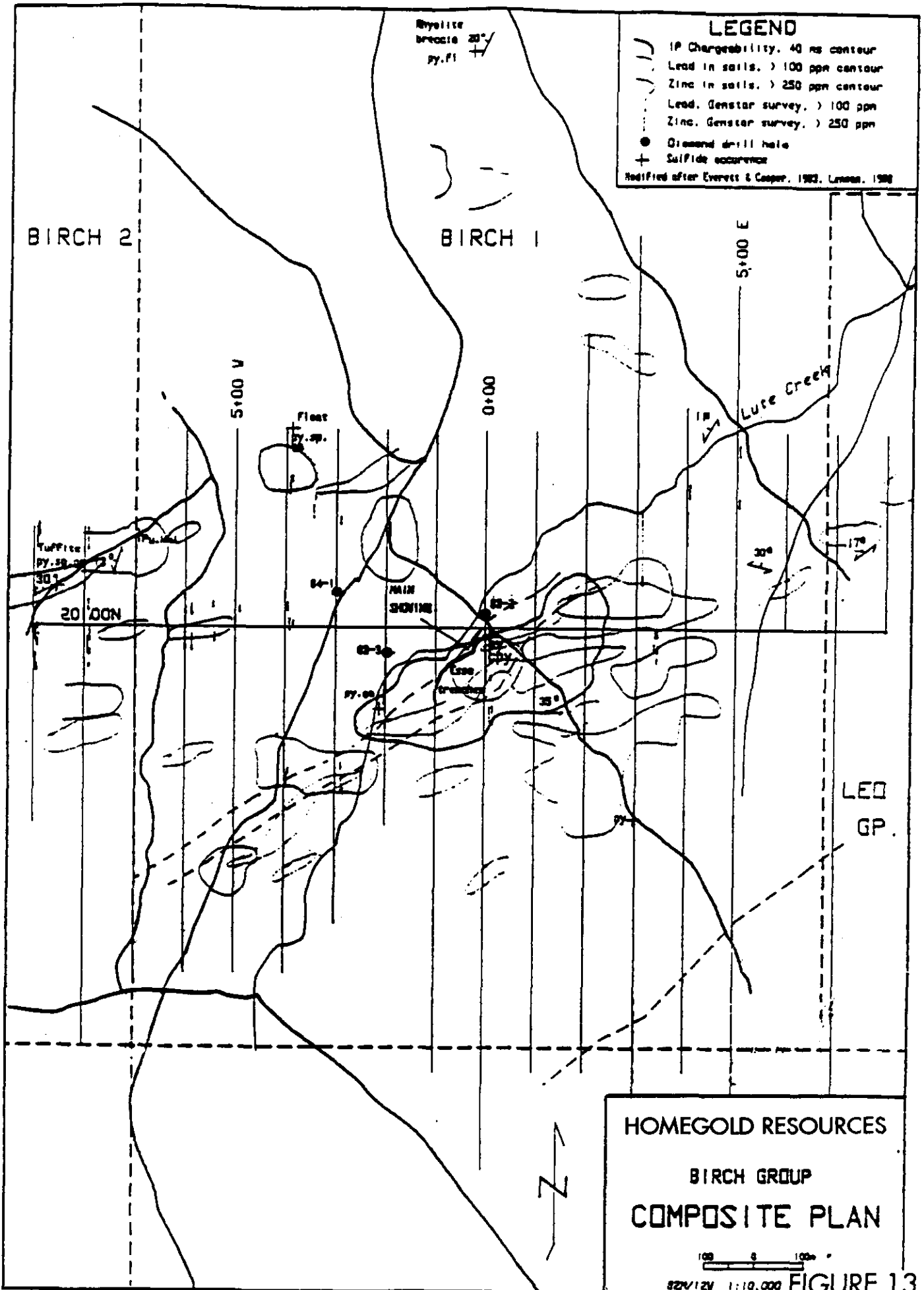
### Phase II

- 1) Complete the geological mapping of the property using the orthophoto with attention to the northern and western portions of the claims
- 2) Extend the induced polarization geophysics to fill-in the gap between L3W and L7W south of the baseline, with the intention of following up on the trend between the Main Zone Massive Sulfide and the anomaly on the Line 7W. Within this area is the semi-massive sulfide zone discovered in 1988.
- 3) Soil geochemistry is required to follow-up the Line 7W IP anomaly and determine continuity south of the baseline from Line 3W to Line 8W. This will also define the semi-massive sulfide zone discovered in 1988. Also Lines L6W to L10W should be extended out to 29+00N to follow-up on the enhanced soil values on the northerly end of L6W and better define the Exhalative showing.
- 4) Backhoe trenching of the IP and soil anomaly on Line 8W from 21+50 to 22+00N. Also extend the backhoe trench (now backfilled) over the Exhalative showing on Line 8W to fully understand the bedrock geometrics. Backhoe trenching of targets defined by the IP program to the south of the baseline.

### Phase III (contingent on Phase I results)

Diamond drilling of favourable targets following Phase I work.

A handwritten signature in cursive script, appearing to read "J. Shearer". The signature is written in dark ink and is positioned to the right of the text "Diamond drilling of favourable targets following Phase I work."



**COST ESTIMATE of FUTURE WORK**

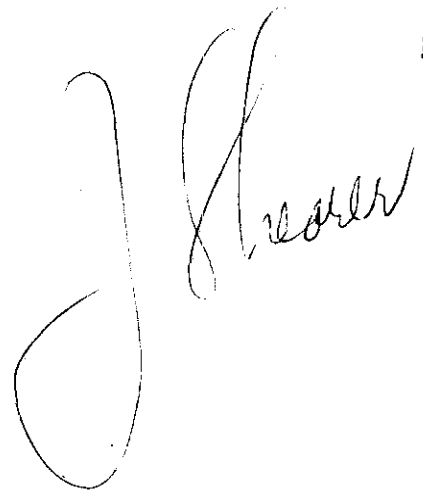
**Phase II**

|                                       |                      |
|---------------------------------------|----------------------|
| 1) Geological mapping and supervision | \$ 20,000.00         |
| 2) Induced Polarization (L3W to L7W)  | 25,000.00            |
| 3) Soil sampling and line cutting     | 5,000.00             |
| 4) Backhoe trenching                  | 15,000.00            |
| 5) Analytical                         | <u>5,000.00</u>      |
| <b>Total Phase II</b>                 | <b>\$ 100,000.00</b> |

**Phase III**

|   |                      |
|---|----------------------|
| Diamond drilling (5,000 feet of drilling) - all in cost | \$ 125,000.00        |
| Geological supervision and core logging                 | 25,000.00            |
| Analytical  | <u>15,000.00</u>     |
| <b>Total Phase III</b>                                  | <b>\$ 165,000.00</b> |

**TOTAL PHASES II & III** **\$ 265,000.00**



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**APPENDIX I**

**STATEMENT OF QUALIFICATIONS**

**May 6, 1997**

## APPENDIX I

### STATEMENT OF QUALIFICATIONS

I, JOHAN T. SHEARER, of 1817 Greenmount Avenue, in the City of Port Coquitlam, in the Province of British Columbia, do hereby certify:

1. I am a graduate of the University of British Columbia (B.Sc., 1973) in Honours Geology, and the University of London, Imperial College (M.Sc., 1977).
2. I have over 25 years of experience in exploration for base and precious metals and industrial mineral commodities in the Cordillera of Western North America with such companies as McIntyre Mines Ltd., J. C. Stephen Explorations Ltd., Carolin Mines Ltd. and TRM Engineering Ltd.
3. I am a fellow in good standing of the Geological Association of Canada (Fellow No. F439) and I am a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (Member No. 19,279).
4. I am an independent consulting geologist employed since December 1986 by Homegold Resources Ltd. Unit #5-2330 Tyner Street, Port Coquitlam, British Columbia.
5. I am the author of this report entitled "Geological Assessment and Summary Report" dated May 6, 1997.
6. I have visited the property in May 1987, August 1988, August 1989, October 1990, May 1996 and September 1996 and carried out geological mapping, drill core logging and sample collection. I am familiar with the regional geology and geology of nearby properties. I have become familiar with the previous work conducted on the Birch property by examining in detail the available reports, plans and sections, and have discussed previous work with persons knowledgeable of the area.
7. I own a part interest in the property described herein.

Dated at Port Coquitlam, British Columbia, the 6th day of May, 1997.



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J. T. Shearer, M.Sc., F.G.A.C., P.Geo.

**APPENDIX I**

**STATEMENT OF COSTS**

**1996 - 1997**

**May 6, 1997**

## Appendix II

### Statement of Costs

#### Birch Claims

##### Wages and Benefits

J.T. Shearer, M.Sc., P.Geo.  
3 days, Sept. 20, 21 & 22, 1996 @ \$350 per day \$ 1,050.00

S. L. Shearer, Prospector  
3 days, Sept. 20, 21 & 22, 1996 @ \$250 per day \$ 750.00

##### Transportation

Truck Rental  
3 days @ \$53.50 per day \$ 160.50

Camp Rental  
3 days @ \$75.00 per day \$ 225.00

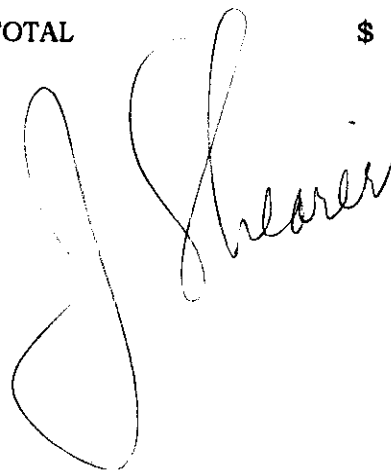
Food & Camp Supplies \$ 165.00

Base Map and Reproduction \$ 220.00

Drafting and Reproduction \$ 385.00

Report Preparation \$ 700.00

TOTAL \$ 3,655.00







711



**PHY** PHYLLITE - grey green, platy with feldspar phenocrysts

**CAP** CHLORITE + ANKERITE + PYRITE SCHIST after dark basic volcanic flows

**SS** SERICITE SCHIST - after felsic volcanics, yellowish brown, saugery textured with quartz eyes. Banded texture with bands and disseminations of pyrite, chalcopyrite, spalerite and galena

**BLSS** SERICITIC QUARTZITE - grey, yellow-pink, coloured massive and siliceous sediment. Some quartz eyes are found

**CS** QUARTZ SERICITE CHLORITE SCHIST pale green schistose in 1' step, intermediate volcanics. 1 to 5% quartz eyes

**CS** CHLORITE SCHIST - med. to dark green meta-volcanic of basic composition, moderate to intense alteration

**SIL** SILICIFIED, CARBONIZED QUARTZ CHALCOPYRITE - GALENA - SPHALERITE STOCKWORK ZONE

**MS-C** SEMI-MASSIVE SULFIDE - CHLORITE SCHIST HORIZON - banded with 15 to 80% pyrite. Minor chalcopyrite, spalerite and galena

**Trunk** outcrop of mineral showing

**CREEK**

**OUTCROP**

**Prospecting Traverse**

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

**25,070**

SCALE 1:5000  
CONTOUR INTERVAL 10 metres

HOME GOLD RESOURCES  
BIRCH CLAIMS

ORTHOPHOTO  
GEOLOGY & PROSPECTING

82M/12W  
HOME GOLD RESOURCES LTD.  
J. SHEARER DATE: MAY 15 1997  
SCALE: 1:5,000 FIGURE NO: 10