Geological, Geochemical and Diamond Drilling Report on the Tulsequah Chief Property

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VANCOUVER, B.C.

Tulsequah River Area
Northwestern BC
NTS 104K/12

Atlin Mining Division

58°43'N 133°35'W

Owner & Operator:
Redfern Resources Ltd.
760 - 777 Hornby Street,
Vancouver, BC

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March 30, 2004

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1 Introduction

The Tulsequah Chief property, situated in Northwestern British Columbia, is located 100 km south of Atlin, B.C. and 64 km northeast of Juneau, Alaska.

The Tulsequah Chief deposit was discovered in 1923 and the nearby Big Bull deposit in 1929. Cominco Ltd. acquired the properties in 1948. Mining began in 1951 and continued until 1957 at which time low metal prices forced its closure. Production during that period totaled 935,536 tonnes grading 1.59% copper, 1.54% lead, 7.0% zinc, 3.84 grams/tonne gold, and 126.52 grams/tonne silver. Of that total, 575,463 tonnes were mined from the Tulsequah Chief and the remainder from the Big Bull.

The Tulsequah Chief property lay dormant from 1957 to 1971. In 1971, the deposits were interpreted as volcanogenic massive sulphide (VMS) deposits similar to the "Kuroko" deposits in Japan. Using the VMS model, significant new tonnage was defined by diamond drilling at the Tulsequah Chief deposit between 1978 and 1994 by Cominco Ltd. and Redfern Resources Ltd. In June, 1992, Redfern Resources Ltd. purchased Cominco's interest (60%) in the Tulsequah Chief property.

No technical geological work was carried out on the property between 1994 and 2003.

The Tulsequah Chief deposits are precious metal-rich massive sulphide deposits hosted within the Devonian to Permian Mount Eaton suite. The Mount Eaton suite is primarily a bimodal volcanic suite that is mainly subalkalic and calc-alkaline in composition typical of an island-arc setting. It has been subdivided into three major series -- Footwall series (unit 1), Mine series (unit 2), and Hanging Wall series (unit 3). Within the Mine series, the I, H, AB_2, AB_1, massive sulphide lenses and their faulted extensions (F- and G-zone) are spatially and genetically related to felsic volcanic rocks. The deposits consist of thinly banded chert, barite, gypsum and massive sulphides. Local debris flow facies containing clasts of altered volcanics, massive sulphide, chert and barite indicate deposition in an unstable slope environment. The sulphides in order of abundance are pyrite, sphalerite, chalcopyrite, galena and tetrahedrite. Native gold is a relatively common accessory.

The Mount Eaton suite is folded into a northwesterly plunging anticlinal-synclinal fold pair in the vicinity of the Tulsequah Chief Mine. These upright to steeply overturned parasitic folds are on the western limb of the regional Mount Eaton anticline. Faulting sub-parallel to the axial plane of these folds has offset stratigraphy across the 4400E and 5300E faults by a small amount. These faults divide the mine area into three mine blocks--Western Mine Block (west of 4400E fault), Central Mine Block (between 4400E and 5300E fault) and Eastern Mine Block (east of 5300E fault).

The 2003 work program was carried out between June 2 and November 18. The program involved primarily underground diamond drilling from existing drill stations within the Tulsequah Chief mine, although two surface holes were also completed. During the program, 23 holes totaling 10,109 meters, were drilled.

The total cost of the program, including minor rehabilitation of the underground workings, was $1,645,040.52.

Based on the favourable results of the 2003 program, a subsequent work program budgeted at $4,783,840 is recommended.

2 Property Description and Location

The Tulsequah Chief property is situated along the Tulsequah River in Northwestern B.C. (Fig. 1). It is centered on latitude 58°43'N and longitude 133°35'W (NTS 104K/12). Access is by air from Atlin, B.C. 100 km to the north, or by air from Juneau, Alaska, 64 km to the southwest. The exploration base camp is situated on the east bank of the Tulsequah River at an elevation of 108m above sea level.

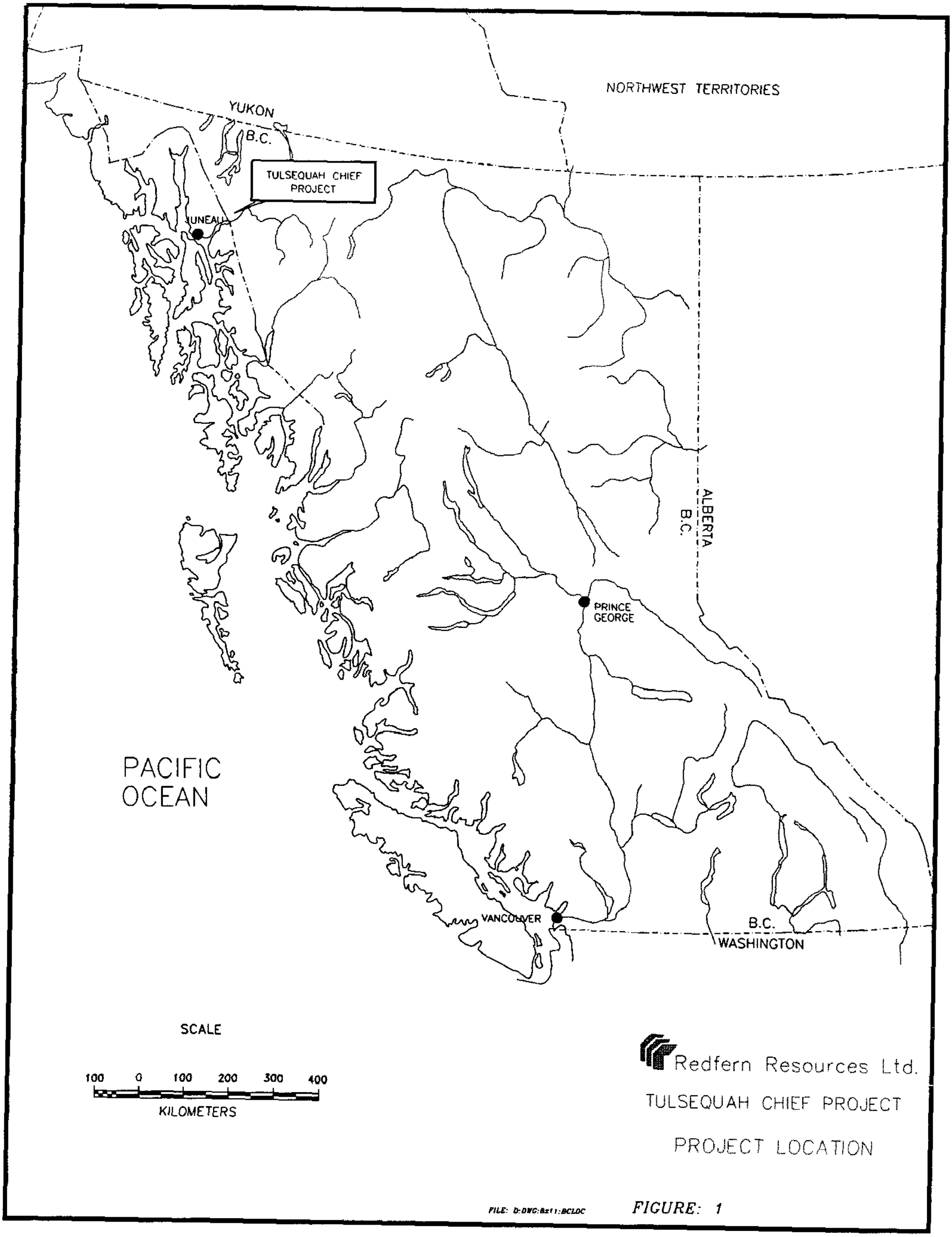
The property is comprised of a total of 49 located mineral claims and 25 crown granted mineral claims for a total of 651 claim units (16,088.69 ha.) (Fig. 2), and is 100% owned by Redfern Resources Ltd. Table xxx provides a list of claim information.

3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Tulsequah Chief property is accessible only by air or by water. The most direct access is by helicopter from Atlin to the mine site. Fixed wing access is possible using one of two airstrips which are present in the Tulsequah valley. One is located 4.7 km SSW of the camp at the site of the old Polaris Taku Mine, and a second is located in the middle of the Tulsequah floodplain 8.5 km south of the camp. The airstrips are suitable for aircraft up to Shorts Sky Van in size, however a helicopter is required to access the site from either airstrip. Charter flights, both fixed wing and helicopter, are available from Atlin or Juneau. River boat access from Juneau is possible for most of the early summer months.

The property roughly covers the area directly north of the confluence of the Tulsequah and Taku Rivers. Topographic elevations on the property range from 50m at river level to over 1800m at the top of Mount Eaton. Vegetation ranges from wet, dense coastal forest at the lower elevations to sub-alpine scrub at the higher elevations. Approximately 60 percent of the property is covered by dense, mature coastal forest with thick undergrowth comprised of devils club and various thorns. Rock exposure in these areas ranges from minimal to moderate and is commonly covered with thick moss or lichen. Two major ice fields; Mount Eaton and Manville, are covered by some of the eastern claims and comprise approximately 15% of the present property area.

The Tulsequah and Taku River valleys are glacial in origin with broad flat floodplains, each several kilometers wide, and moderate to steep valley walls. The Tulsequah River originates at the Tulsequah Glacier, located some 15km north of the property, and occupies a valley comprised of glacio-fluvial debris with little vegetative cover.


NORTHWEST TERRITORIES
YUKON
B.C.
TULSEQUAH CHIEF PROJECT
JUNEAU
ALBERTA
B.C.
PRINCE GEORGE
PACIFIC OCEAN
VANCOUVER
B.C.
WASHINGTON
SCALE
100 0 100 200 300 400
KILOMETERS
Redfern Resources Ltd.
TULSEQUAH CHIEF PROJECT
PROJECT LOCATION
FILE: D:DWG:8x11:BCLOC
FIGURE: 1

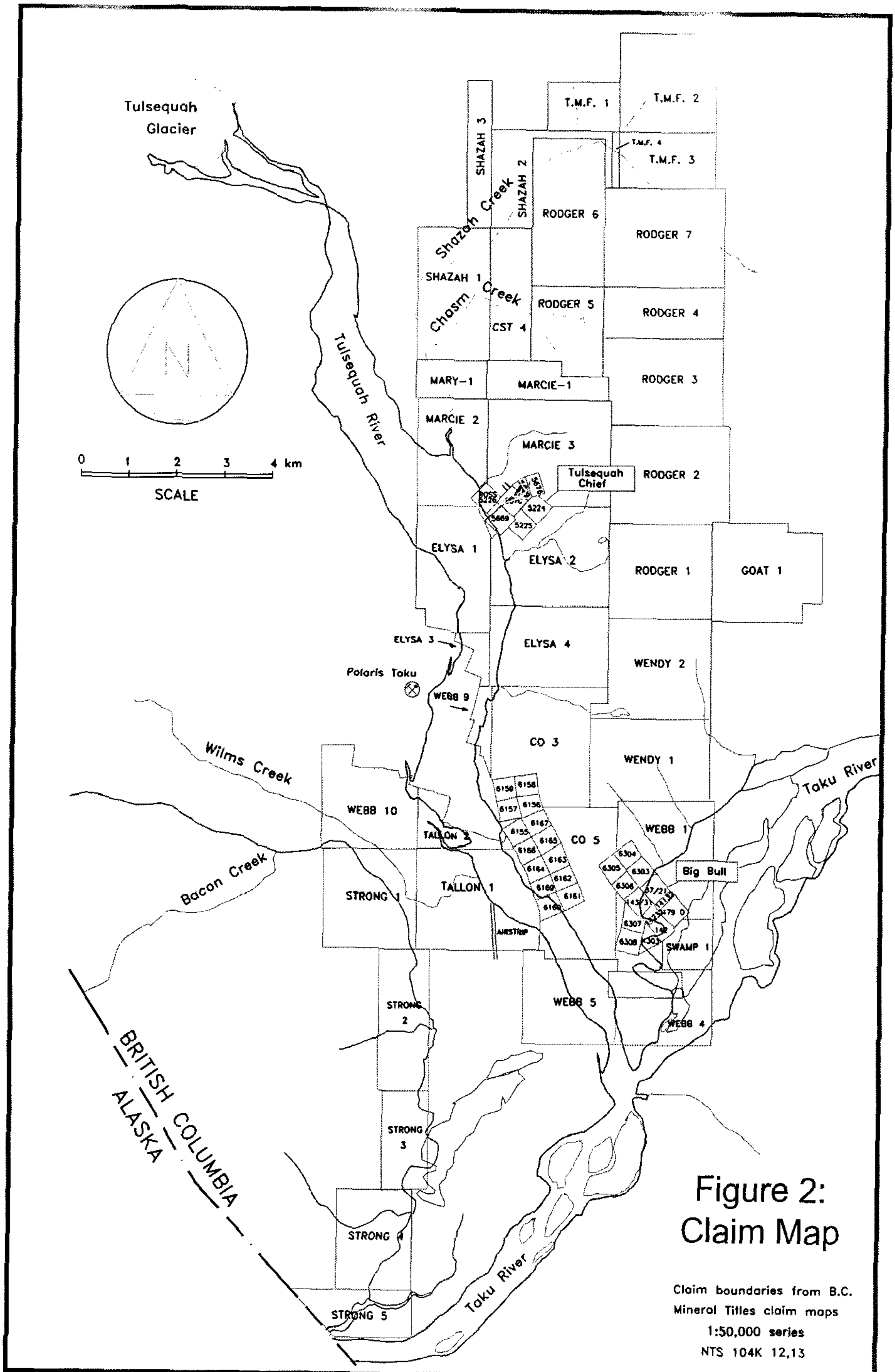


Figure 2: Claim Map

Claim boundaries from B.C. Mineral Titles claim maps 1:50,000 series NTS 104K 12,13

4 History

The Tulsequah Chief deposit was discovered in 1923 by W. Kirkham of Juneau. He located high-grade barite, pyrite, sphalerite, galena, and chalcopyrite mineralization outcropping in a gully at about 500 meters asl. Development of this showing between 1923 and 1929 attracted about 40 prospectors to the area. In 1929, V. Manville discovered the Big Bull massive sulphide deposit. Other discoveries that year included the Potlatch (Sparling), Banker and the Whitewater (Polaris Taku) vein deposits. The Erickson-Ashby sulphide deposit was discovered later in 1930.

Cominco Ltd. acquired the Tulsequah Chief and Big Bull deposits in 1946. Production started in 1951 and continued to 1957 when low metal prices closed the mine. Production averaged 482 tonnes (530 tons) per day. Total production was 935,536 tonnes comprised of 575,463 tonnes from the Tulsequah Chief and 360,073 tonnes from the Big Bull deposit. Average grade of ore was 1.59% Cu, 1.54% Pb, 7.0% Zn, 3.84 g/tonne Au, and 126.52 g/tonne Ag. The mines produced 14,756 tons Cu, 11,439 tons Pb, 54,910 tons Zn, 95,340 oz Au, and 3,329,938 oz Ag at a recovery of about 88% Cu, 94% Pb, 87% Zn, 77% Au, and 89% Ag.

At shutdown, ore reserves at the Tulsequah Chief were 707,616 tonnes grading 1.3% Cu, 1.6% Pb, 8.0% Zn, 2.40 g/tonne Au, and 116.50 g/tonne Ag, and at the Big Bull were 57,541 tonnes grading 1.1% Cu, 1.5% Pb, 5.6% Zn, 3.43g/tonne Au, and 154.3 g/tonne Ag. Tulsequah Chief reserves consisted of 73,408 tonnes in the Upper Deposits (I horizon) and 634,208 tonnes in the Lower Deposits (H,AB2, AB1 horizons). In the Lower Deposits, 307,063 tonnes were above, and 327,145 tonnes were below the 5200 Level.

The Tulsequah Chief and Big Bull deposits lay dormant until 1971. At this time the deposits were reinterpreted as volcanogenic massive sulphides, rather than hydrothermal veins as originally described. Geological mapping (1:2500) over the Tulsequah Chief and Big Bull deposits was completed in 1981. The property was flown by Dighem and Input EM/Mag in 1982, however, these surveys failed to define any significant conductors. A joint venture between Cominco Ltd. and Redfern Resources Ltd. led to extensive exploration programs from 1987 to 1991.

1987

The 1987 Exploration Program (Casselman, 1988) was funded by Redfern Resources Ltd. Surface mapping was completed over the property and five surface diamond drill holes (3,524 meters) tested the down dip extension of the Tulsequah Chief deposit. The mineralized horizon was intersected on approximately 90 meter spacings, 450 to 600 meters below surface, and 40-240 meters below previous drilling.

1988

The 1988 Exploration Program (Casselman, 1989) was funded by Redfern Resources Ltd. Outside the Tulsequah Chief Mine area, mapping, prospecting, and soil sampling were completed over areas of felsic volcanic units. Inside the mine area, 900 meters of underground workings were rehabilitated on the 5400 Level and 3,530 meters of underground and surface diamond drilling were completed. Nine drill holes tested areas below the old workings, of which, eight holes intersected significant base and precious metal mineralization. Four holes tested other targets on the property.

1989

The 1989 Exploration Program (Casselman, 1990) was jointly funded by Redfern Resources Ltd. (40%) and Cominco Ltd. (60%). The program consisted of re-ballasting track, 175 meters of drifting in the 5400 Level crosscut, and 4,890 meters of underground drilling. Ten drill holes from the extended 5400 Level crosscut tested the down dip extension of the known sulphide bodies. Eight holes intersected significant base and precious metals. Specific gravity measurements were made on all 1987, 1988, and 1989 mineralized drill intersections. Redfern calculated a possible resource, including historic Cominco reserves above the 5200 Level, of 5.27 million tonnes grading 1.6 % Cu, 1.3% Pb, 7.0% Zn, 2.74 g/tonne Au, and 99.43 g/tonne Ag.

1990

The 1990 Exploration Program (Aulis, 1991) jointly funded by Redfern Resources Ltd.(40%) and Cominco Ltd. (60%) consisted of underground rehabilitation, 180 meters of drifting, slashing two drill stations on the 5400 Level and 5,908 meters of underground drilling. Seven drill holes tested the down-dip extension of the H-AB sulphide bodies. An eighth drill hole was abandoned due to ground problems. A resource estimate by Cominco Ltd. totaled 6.27 million tonnes grading 1.58% Cu, 1.33% Pb, 7.59% Zn, 2.74 g/tonne Au, and 114.86 g/tonne Ag, including the 1957 reserve. Redfern prepared their own estimate, using different cutoffs, which totaled 7.3 million tonnes grading 1.55% Cu, 1.23% Pb, 6.81% Zn, 2.74 g/tonne Au, and 109.37 g/tonne Ag.

1991

The 1991 Exploration Program was operated and funded by Redfern Resources Ltd. (100%). The program was restricted by agreement with Cominco to infill drilling on the H and AB lenses between the 3400 and 4900 Levels. Six drill holes (3,090 m) were collared from the 5400 Level crosscut. All holes intersected the targeted massive sulphide horizon. Cambria Data Services Ltd. (M^{c}Guigan et al., 1991 and 1992) prepared a probable and possible reserve estimate of 7.60 million tonnes grading 1.62% copper, 1.19% lead, 6.51% zinc, 2.88 g/tonne Au and 116.57 g/tonne Ag, inclusive of Cominco's 1957 shutdown reserve.

Redfern Resources Ltd. purchased Cominco's interest (60%) in the Tulsequah Chief property in June, 1992. Consequently, Redfern Resources became the 100% owner of the Tulsequah Chief and Big Bull deposits and adjacent ground.

1992

The 1992 Exploration Program (M^c^Guigan et al., 1993) consisted of surface and underground geological mapping, core re-logging (1987-1991) and underground diamond drilling (4,579 meters in 13 holes). Cambria Geological Ltd. prepared a reserve estimate (all horizons and classes) of 8,500,592 tonnes grading 1.48% copper, 1.17% lead, 6.85% zinc, 2.56 grams/tonne gold and 103.42 grams/tonne silver. Tonto Mining Ltd. completed a Pre-Feasibility study which outlined a fully diluted mineable reserve (at 1993 metal prices) of 6.93 million tonnes grading 1.40% copper, 1.07% lead, 6.42% zinc, 2.40 grams/tonne gold and 93.37 grams/tonne silver (M^c^Latchy, 1993).

1993

Redfern conducted a comprehensive exploration program in 1993 consisting of 6,238 meters of underground drilling (14 holes) at the Tulsequah Chief Mine and 5,368 meters of surface drilling - 1,812 m in 6 holes in the Tulsequah Chief Mine area and 3,556 meters in 12 holes in the Big Bull Mine area (Chandler et al, 1994; Carmichael et al, 1994). Extensions were added to existing grids at the Tulsequah Chief Mine and the Big Bull Mine areas and new grids were cut to cover prospective stratigraphy south of Tulsequah Chief and the Banker prospect (Curtis, 1994). This work generated an additional 76 line-kilometers of grid which was geologically mapped at 1:2000 scale and covered by various combinations of gradient array IP, magnetometer and VLF-EM geophysical surveys. The geophysical surveys also covered the previous grid areas at Tulsequah Chief and Big Bull. Reconnaissance geological mapping was conducted in selected areas.

Based on the new drill results Redfern calculated a revised polygonal sectional and longitudinal resource in all categories totaling 8,489,885 tonnes grading 1.41% Cu, 1.23% Pb, 6.65% Zn, 2.52 g/tonne Au and 105.66 g/tonne Ag.

1994

In 1994 Redfern completed 4,241 meters of underground diamond drilling in 11 holes and 1,700 meters of surface diamond drilling in 4 holes at Tulsequah Chief, and 5,228 meters of surface drilling in 15 holes at Big Bull for a program total of 11,169 meters in 30 holes.

Underground and surface mapping and sampling programs were completed on the 5400 level main drift. Over 1 km of underground rehabilitation was completed on the 5200 level main drift which allowed for detailed geological mapping and sampling programs in an area not accessible since the 1950's production era.

Surface work included the establishment of an additional 10.7 kilometers of I.P. standard cut survey grid over altered felsic volcanic rocks exposed to the south of the 5200 level portal. During the course of geological mapping and sampling over this and adjacent parts of the existing grid a total of 71 trace element and 14 lithogeochemical samples were collected from selected rock outcrops.

1995 – 2003

Technical geological work during this period was limited to the collection of a bulk sample from the 5200 Level. A feasibility study was completed in 1995, and updated in 1997 (reference).

5 Geological Setting

5.1 Regional Scale

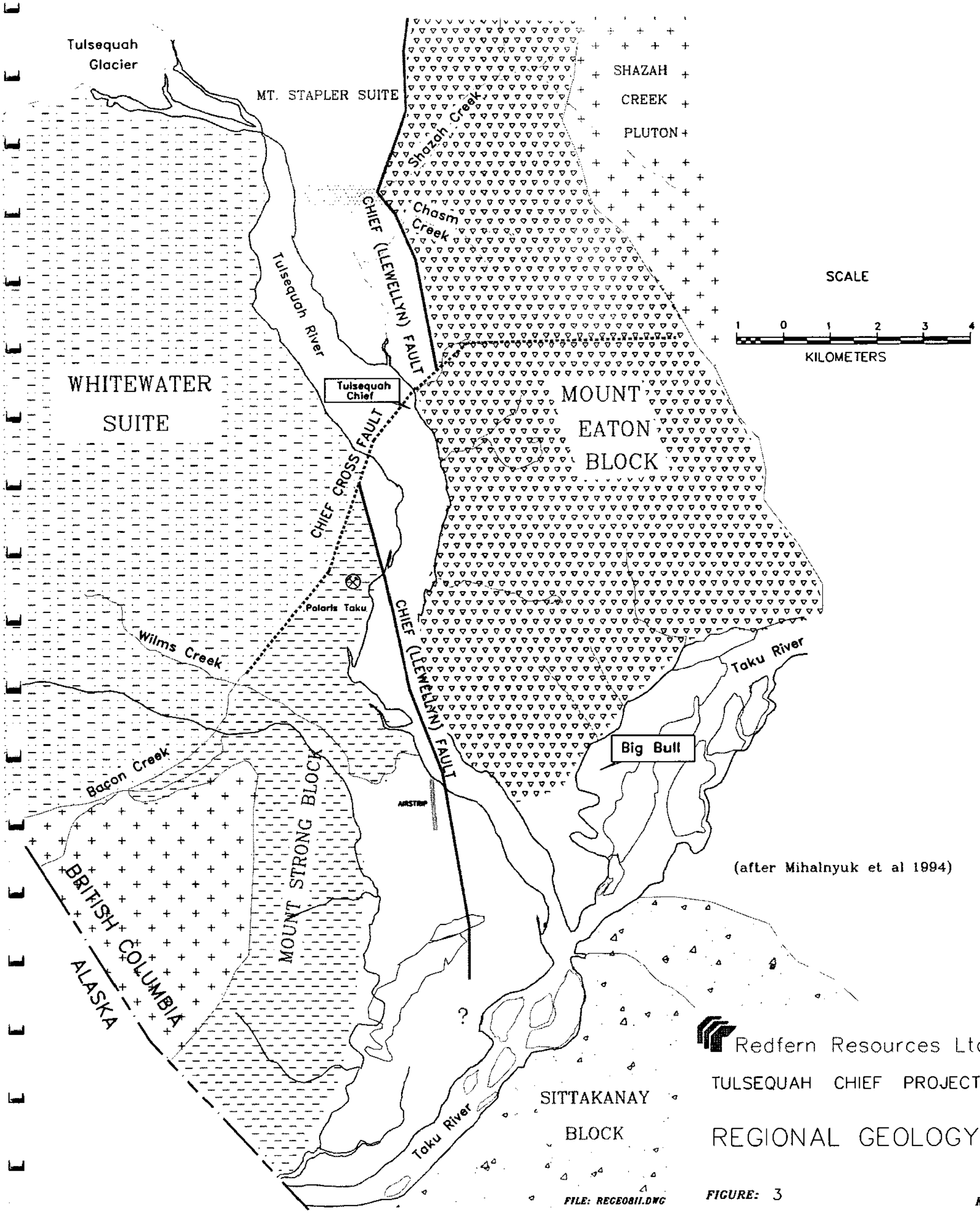
The regional geology of the Tulsequah area is characterized by fault juxtaposition of several diverse Paleozoic to Mesozoic tectonostratigraphic terranes which have been variably deformed, intruded by Jurassic to Cretaceous age Coast intrusions and unconformably overlain by Tertiary Sloko volcanics (Mihalynuk et al, 1994).

The dominant structural feature of the region is the **Llewellyn fault** (known locally as the **Chief Fault**) which divides higher grade metamorphic rocks of Paleozoic and older ages on the west from weakly metamorphosed Paleozoic and Mesozoic rocks on the east. West of the fault three suites of rocks are recognized: the **Whitewater suite** which consists of an amphibolite grade metamorphic sequence of sedimentary origin, the **Boundary Ranges suite**, consisting of schists of volcanic and sedimentary origin, and the **Mount Stapler suite**, a low-grade metamorphic package which shares characteristics of both the Whitewater and Boundary Range suites and may be gradational to both. East of the fault Paleozoic rocks of the Stikine Assemblage include the **Mount Eaton block -** low metamorphic grade volcanic rocks of island arc affinity which host the Tulsequah Chief and Big Bull sulphide deposits. South of the Taku river the **Sittakanay block** appears to be more deformed but lithologically similar to the Mount Eaton block whereas the **Mount Strong block**, located west of the Tulsequah river, is more sediment dominated and thought to represent a more distal equivalent of the Mount Eaton and Sittakanay volcanics.

Deformation and metamorphic grade in the Tulsequah region decreases from west to east. Lithologies range from polyphase deformed high grade gneisses in the Boundary Ranges suite to lower greenschist grade volcanics of the Mount Eaton block. The latter has been affected by an upright to steeply overturned north trending, open to isoclinal fold event. A second, less well developed, fold event overprints the first. North trending, steeply dipping faults show evidence of numerous re-activations and intrusion by late Tertiary Sloko dykes.

5.2 Property Scale

The Tulsequah property is dominantly underlain by rocks of the Mount Eaton Block, an island arc volcanic sequence of Devono-Mississippian to Permian age (Mihalynuk et al, 1994). These



Redfern Resources Ltd.

TULSEQUAH CHIEF PROJECT

REGIONAL GEOLOGY

FILE: REGE0811.DWG

FIGURE: 3

KMC

rocks lie east of the Chief (Llewelyn) fault and are predominantly located east of the Tulsequah River and north of the Taku River. Other Stikine Assemblage rocks on the property are represented by the sediment dominated Mount Strong block which hosts the Polaris-Taku gold deposit on the west side of the Tulsequah River and extends southward to underlie the southwestern portions of the property. West of the Chief fault, older more deformed rocks of the Mount Stapler and Whitewater suites impinge on the northern and western extremities of the property.

The Mount Eaton block hosts the Tulsequah Chief and Big Bull volcanogenic massive sulphide deposits and a number of other similar occurrences and prospects. Work by the BCGS (Mihalynuk et al ,1994), Mineral Deposits Research Unit (MDRU) (Sherlock et al, 1993) and Redfern has crudely defined the stratigraphy of the Mount Eaton block based on mapping, biochronology, lithogeochemistry and isotopic age determinations. This work has subdivided the stratigraphy into three divisions. The Lower Division is dominated by Devonian to early Mississippian age bimodal volcanic units which include the Mine series felsic rocks hosting the Tulsequah Chief and Big Bull deposits. The Middle Division, Mississippian to Pennsylvanian in age, is composed dominantly of pyroxene bearing mafic breccias and agglomerates with locally extensive accumulations of mafic ash tuffs and volcanic sediments. The transition from the Middle to Upper Divisions is marked by polymictic debris flows and/or conglomerate. The Pennsylvanian to Permian Upper Division rocks primarily consist of volcanic derived and clastic sediments with lesser mafic flows. Distinctive bioclastic rudite and intercalated chert, shales and occasional sulphidic exhalite occur near the top of the Upper Division. Late Tertiary Sloko rhyolite and mafic dykes cut the Paleozoic units and commonly intrude along re-activated north-trending faults.

Structure in the Mount Eaton block is dominated by the north trending, eastward verging Mount Eaton anticline which plunges moderately north and dips steeply west. A number of parasitic, upright to overturned, folds (F_1) which range from open to near isoclinal occur on the western limb of this anticline. Penetrative fabric is weak or poorly developed except in extremely appressed folds. This first phase of folding (F_1) is refolded by a second, east-west fold phase (F_2) that is irregularly expressed across the property and locally produces a cross-cutting cleavage (S_2). The F_2 folds are generally upright and open. F_1 folds are not significantly re-oriented by the F_2 second phase of folding although they do exhibit variable plunge attitudes. F_1 fold axes generally plunge to the north in the northern half of the property with southern plunges more common in the southern areas. In the Tulsequah Chief mine area folds are open, and plunge at 55 to 60 degrees to the north with steep westerly dipping axial planes.

North to northwest trending faults are most common and generally exhibit long-lived, complex displacement histories. Displacement appears to be small on these faults except for the major Chief fault. Most faults are marked by topographic depressions in the form of steep-sided gullies and ravines. The north trending faults are commonly intruded by Sloko rhyolite dykes.

Younger east-west faults are less common on the property. However, based on regional mapping (Mihalynuk et al, 1994), these faults may have significant displacements. In particular, the Chief

MOUNT EATON SUITE; Arc succession of the STIKINE ASSEMBLAGE
(modified after Mihalynuk et al, BCGS PAPER 1994 - 1)

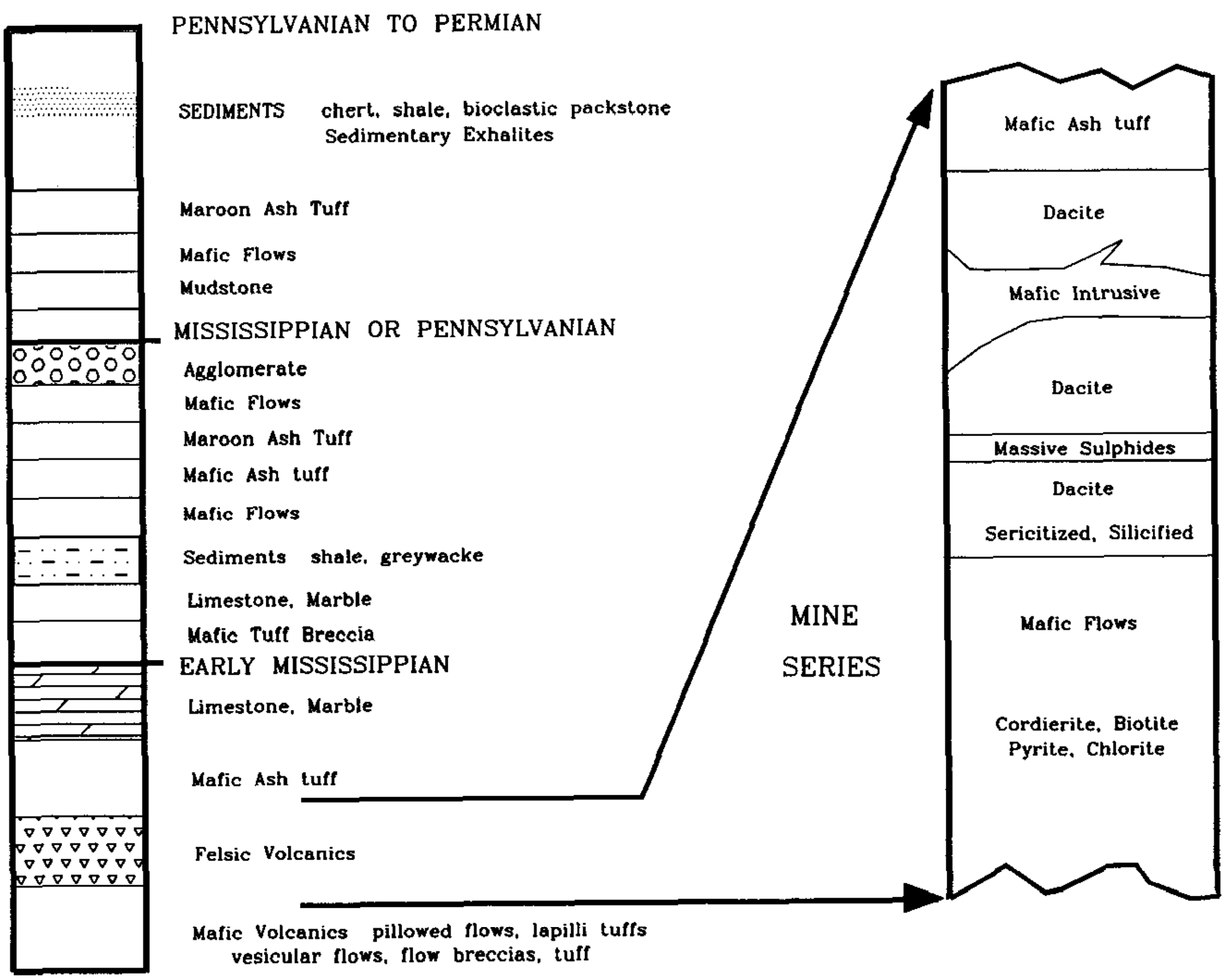


Figure 4: Stratigraphic Section

Cross fault was identified as potentially offsetting the regional Llewellyn (Chief) fault in a dextral sense by as much as two kilometers.

5.3 Deposit Scale

The Tulsequah Chief deposit is a precious metal-rich massive sulphide deposit hosted by the Devonian to Permian Mount Eaton suite. In the mine area, the Mount Eaton suite forms a northward younging package of felsic and mafic rocks that are sub-divided into the Footwall series (unit 1), the Mine series (unit 2) and the Hangingwall series (unit 3). The geology has also been subdivided into three structural "blocks" defined by the 4400E and 5300E faults. The Western Mine Block (WMB) lies west of the 4400E fault, the Central Mine Block (CMB) lies east of the 4400E fault and west of the 5300E fault, and the Eastern Mine Block (EMB) lies east of the 5300E fault. The stratigraphy correlates well across the faults and fault offsets typically create inconveniences to exploration rather than serious problems.

The occurrence of several distinct sulphide lenses at different stratigraphic levels, combined with the long history of production and exploration at Tulsequah, has resulted in a complex and confusing nomenclature for mineralized zones. In the 1950's, Cominco assigned letters to mineralized zones on an individual stope scale. Stopes mined above the 5200 Level included the A, B, C, D and E stopes. Late in the mine life, an F zone was discovered in the WMB, just west of the 4400E fault. Generally, these terms referred to individual sulphide lenses, without regard to stratigraphic position, and in places separated by faults.

With the resumption of exploration in 1987, an attempt was made to retain the old nomenclature, but mineralization was now being described in terms of stratigraphic position. In general, names have been given to stratigraphic intervals which host sulphide mineralization, thus AB_1 is intended to refer to sulphide mineralization which sits directly on the mafic footwall, and is overlain by rhyolites. An unfortunate complication was added by giving mineralization outside of the CMB new names, even though it could be correlated with one of the know horizons. For example, mineralization encountered at the AB_1 horizon west of the 4400E fault has been termed the F zone.

Footwall series (unit 1) forms the lowest stratigraphic unit in the Tulsequah Chief Mine area. It consists primarily of amygdaloidal mafic flows with minor interflow ash tuff, volcanic sediment and chert.

Mine series (unit 2) forms a laterally extensive, mainly felsic unit that stratigraphically overlies unit 1. It consists of felsic volcaniclastics, flows and sills that are host to a number of sulphide deposits at several distinct stratigraphic levels. These levels, or "horizons" include the I, H, AB_2, and AB_1 horizons.

Mineralization at the I horizon (historically called the Upper Deposits) was mined from 1951 to 1957 between the 6100 and 6500 Levels (+300 to +500m elevation). Mineralization occurring at shallower levels of the AB_1, AB_2, and H horizons (historically called the Lower Deposits) was mined from 1951 to 1957 between the 5200 and 5700 Level (+50 to 200m elevation). Additional discoveries below the 5200 Level (+50m elevation) identified since 1987 include the H, AB_2

(extension of the Lower Deposits), G (offset extension of the H-AB_2 east of the 5300E fault), and AB_1 massive sulphide horizons.

Hanging Wall series (unit 3) is the highest unit recognized in the Tulsequah Chief Mine area. It consists of mafic flows, sills and lesser interflow volcanic sediment and volcaniclastics.

Units 1 through 3 are intruded by subvolcanic mafic intrusions (unit 4) which form thin sills and dykes that feed a large sill-like body that dilates unit 2 felsic volcanic rocks.

Tertiary Sloko intrusions (unit 5) form narrow dykes emplaced along faults in the Tulsequah Chief Mine area. They consist of flow banded and quartz-feldspar porphyritic rhyolite.

Mesozoic or older deformation has folded the Mount Eaton suite into northwesterly plunging anticlinal-synclinal fold pairs in the vicinity of the Tulsequah Chief Mine. These upright to steeply overturned parasitic folds are on the western limb of the regional Mount Eaton anticline. Faulting sub-parallel to the axial plane of these folds has offset stratigraphy right laterally along the 4400E and the 5300E faults by a small amount (<50m).

5.3.1 Mount Eaton suite (units 1-4)

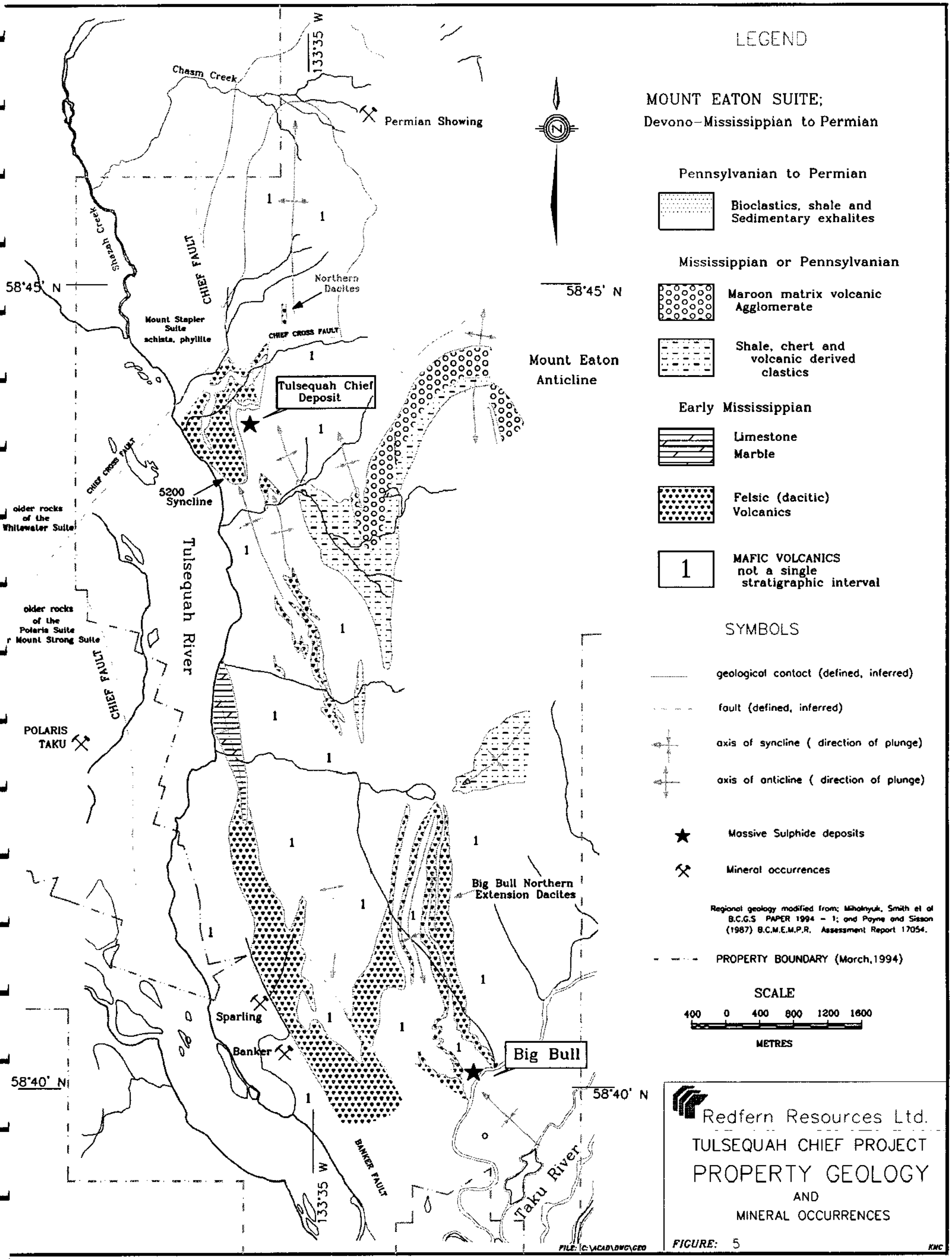
5.3.1.1 Footwall series (unit 1)

The Footwall series (unit 1) forms a thick, laterally extensive unit that crops out in the southern part of the map area. It is bounded by the Mine series (unit 2) along its upper contact and its lower contact is beyond the limit of present mapping. The unit is comprised mainly of amygdaloidal mafic flows, pillowed flows, flow breccias, tuffs (hyaloclastic), lesser volcanic sediment and minor chert.

The mafic flows are generally massive with minor intervals of flow breccia. They are dark green, fine grained to aphanitic and rarely feldspar and/or pyroxene phyric. The top of the unit is commonly amygdaloidal, hyaloclastic textured and strongly silica + sericite + pyrite altered where it underlies unit 2 mineralization. Amygdules are up to 1cm in diameter and filled with quartz, pyrite and chalcopyrite. Cordierite porphyroblasts are best developed in these units and appear to nucleate on the quartz amygdules.

Interflow, thinly laminated turbiditic volcanic sediment and minor chert form thin units up to 20 meters thick which infill small basins between and on top of flow units. These units mark periods of quiescence between deposition of individual flows and in some areas directly underlie AB_1 mineralization.

Whole rock analysis of relatively unaltered massive flows plot in the alkalic and sub-alkalic field on a alkali versus silica diagram with the subalkalic samples plotting in the calc-alkaline field on a AFM diagram (McGuigan et al., 1993). Work by the Mineral Deposit Research Unit (MDRU) at the University of British Columbia (Sherlock and Barrett, 1994) using immobile trace elements indicate the flows are mainly andesite in composition and can be subdivided into low


LEGEND
MOUNT EATON SUITE;
Devono–Mississippian to Permian
Pennsylvanian to Permian
Bioclastics, shale and Sedimentary exhalites
Mississippian or Pennsylvanian
Maroon matrix volcanic Agglomerate
Shale, chert and volcanic derived clastics
Early Mississippian
Limestone Marble
Felsic (dacitic) Volcanics
1
MAFIC VOLCANICS not a single stratigraphic interval
SYMBOLS
geological contact (defined, inferred)
fault (defined, inferred)
axis of syncline (direction of plunge)
axis of anticline (direction of plunge)
Massive Sulphide deposits
Mineral occurrences
Regional geology modified from; Mihalnyuk, Smith et al B.C.G.S PAPER 1994 – 1; and Payne and Sisson (1987) B.C.M.E.M.P.R. Assessment Report 17054.
PROPERTY BOUNDARY (March,1994)
SCALE
400 0 400 800 1200 1600
METRES
Chasm Creek
133°35' W
Permian Showing
Shazah Creek
CHIEF FAULT
58°45' N
Northern Dacites
Mount Stapler Suite schists, phyllite
CHIEF CROSS FAULT
Mount Eaton Anticline
Tulsequah Chief Deposit
5200 Syncline
older rocks of the Whitewater Suite
Tulsequah River
older rocks of the Polaris Suite r Mount Strong Suite
POLARIS TAKU
Big Bull Northern Extension Dacites
Sparling
Banker
Big Bull
58°40' N
BANKER FAULT
Taku River
FILE: C:\ACAD\DWG\GEO
Redfern Resources Ltd.
TULSEQUAH CHIEF PROJECT
PROPERTY GEOLOGY
AND
MINERAL OCCURRENCES
FIGURE: 5
KNC

and high zirconium types. The high zirconium variety are commonly quartz amygdaloidal in texture.

5.3.1.2 Mine series - Felsic Volcanic/H-AB horizon (unit 2)

The Mine series is mainly comprised of felsic volcanics which are the principle host to a number of sulphide deposits that occur at the I, H, AB_2, and AB_1 stratigraphic levels. The unit has a maximum thickness of approximately 200 meters in the western and central half of the map and is less than 10 meters in the vicinity of the I horizon in the northeast area of the map.

The lowest sulphide horizon, termed the AB_1 horizon, consists of zinc-rich facies mineralization which passes into mainly massive pyrite and exhalitive chert above the -200 meter elevation. This horizon is separated from the overlying AB_2 horizon by up to 50 meters of felsic flows, volcaniclastics, amygdaloidal mafic flows and their altered equivalents.

The AB_2 horizon was first discovered during development of the 5700 Level (+200 m elevation). It extends from this elevation down dip to -660 meter elevation, the deepest area tested by drilling (TCU92-36). It was mined in part from the A, B and C stopes of the Lower Deposits and comprises the 1957 D and E Reserve Blocks. The horizon is separated from the overlying H horizon by a westward thickening wedge of altered volcanic debris flows, and unaltered felsic and mafic volcanics. The separation varies from less than 10 meters on the east to greater than 30 meters at the western margin of the AB_2 lens as presently defined.

The H horizon has been the focus of exploration since it was discovered during surface drilling in 1987. It is delineated from the +100 meter elevation to the -700 meter elevation by 64 underground drill holes within the Central Mine Block. Above the -400m level, holes are separated on approximately 45 m centers; below this level the average separation increases to 80 - 120 meters. The horizon obtains its maximum thickness (approximately 29 meters in drill hole TCU90-22) where it merges with the AB_2 horizon along the axis of the H-syncline.

West of the 4400E fault (Western Mine Block), mineralization discovered above the 5200 Level in drilling before 1957 was referred to as the F-zone. It is stratigraphically equivalent to the H-AB_2 horizon, however it has been displaced right laterally across the 4400E fault by a small amount (<50 meters) where it passes through an anticlinal closure. An important result of the 2003 drill program was to confirm the presence of massive sulphide mineralization at the AB1 level in the WMB in hole TCU03073.

East of the 5300E fault (Eastern Mine Block), mineralization referred to as the G-zone is interpreted to be stratigraphically equivalent to H-AB_2 horizon (Central Mine Block), however it is displaced right laterally across the 5300E fault by a small amount (<30 meters). The horizon tapers in thickness from 25 to <5m approximately 300m northeast of the 5300E fault. Vertically, it pinches out at the +50m elevation; it is not exposed on surface. Below the +50m elevation, mineralization has been intersected to the -150 m elevation in drill hole TCU94063.

The I horizon lies stratigraphically above the G-zone and was the focus of historic mining (Upper Deposits) between 1951 and 1957. It is delineated between surface and the +100 meter elevation by underground workings and definition drilling within the Eastern Mine Block. It tapers from 10 meters near the 5300E fault to < 1 meters where it pinches out in a creek bed approximately 300 meters to the northeast. Mineralization grades from thinly banded sphalerite, galena, chalcopyrite, barite and chert near the 6500 portal, to mainly weakly banded pyrite in the creek bed. In the Central Mine Block mineralization potentially correlative to the I horizon has been intersected on the west flank of the deposit in underground holes TCU90027 and TCU89016, and several of the 2003 holes, notably TCU03085. This mineralization lies approximately 110 meters stratigraphically above the H horizon.

The I, H, AB_2 and AB_1 horizons are primarily thinly laminated chert, gypsum, pyrite and sericitically altered tuff (mass flows) which contain a number of discrete precious metal-rich polymetallic massive sulphide bodies. Sulphide bodies were likely deposited in paleotopographic lows at a number of stratigraphic intervals. Locally, the sulphide horizons are clastic (debris flow) indicating deposition in an unstable slope environment. Deformation has mobilized and thickened the sulphide horizons along parasitic fold axes and attenuated them along fold limbs.

The sulphide bodies consist of thinly banded to massive pyrite, sphalerite, chalcopyrite and galena. Accessory minerals include tetrahedrite-tennantite and native gold. Gangue consists of barite (averaging 6%), chert, gypsum and sericite $\pm$ silica altered volcaniclastics. Visually the sulphides can be divided into three distinct sulphide facies: copper facies (CUF), zinc facies (ZNF) and pyrite facies (PYF). CUF-mineralization (>30% total sulphides) is characterized by massive to banded pyrite and chalcopyrite with minor sphalerite and galena. ZNF-mineralization (>30% total sulphides) consists primarily of sphalerite, galena, and lesser pyrite and chalcopyrite. PYF-mineralization (>30% total sulphides) consists of massive pyrite with little economic sulphides.

The I and H-AB horizon and their faulted extensions (F- and G-zone) are overlain and hosted by felsic flows, flow breccias, lesser volcaniclastics and minor sills. The flows, flow breccias and sills are greyish green, feldspar and quartz (1-3 mm) phyric, fine grained to aphanitic dacite (field classification). The volcaniclastics range from thinly laminated dacitic tuff and volcanic sediment to heterolithic lapilli tuffs. Some units are maroon in colour from finely disseminated hematite. Major element analysis of massive dacite from this unit indicated it is sub-alkalic and calc-alkaline in composition (M^c^Guigan et al., 1993). More recent immobile trace element analysis of samples from this unit indicate units mapped as dacites in the field are mostly of rhyolite to rhyodacite in composition and can be divided into two types termed rhyolite A and rhyolite B based on their distinct alteration lines (Sherlock and Barrett, 1993). The strongly altered volcaniclastic mass flows units which are the main host to mineralization are rhyolite B in composition, whereas the overlying massive flows, flow breccias and sills are rhyolite A in composition. Rhyolite A is the most fractionated of the two rhyolites. It also occurs above the subvolcanic mafic sill (unit 4) which is consistent with unit 2 being dilated by the intrusion.

The more massive felsic flows and flow breccias grade into volcaniclastic units near the top of unit 2 where they are in gradational contact with unit 3. This contact is well exposed in the 5400 Level drift extension where green and maroon heterolithic dacite lapilli tuff is interbedded with dark brown to black volcanic sediments and mafic flows or sills.

West of the 4400E fault (Western Mine Block), the large surface extent of unit 2 felsic rocks is a result of structural repetition by an overturned syncline. Near the 5400 and 5200 Level portal, unit 2 is mainly volcaniclastic with units varying from fine ash to large angular breccia-size clasts of pumiceous and lithic fragments. The large size and angularity of the fragments indicate the unit is not highly reworked and suggests a nearby source.

East of the 5300E fault (Eastern Mine Block), the surface extent of unit 2 felsic rocks taper out approximately 100 meters north of the last exposure of I-zone mineralization. In this area, the contact with overlying unit 3 has been intruded by mafic subvolcanic sill (unit 4).

Radiometric (U-Pb zircon) dating of unit 2 gave an age of 353.4 +15.8/-0.9 Ma (Sherlock et al., 1994). The sample dated was a coarse grained, felsic volcaniclastic rock collected near the 6400 Level portal.

5.3.1.3 Hanging Wall series (unit 3)

Hanging Wall series (unit 3) is a thick, laterally extensive unit that conformably overlies unit 2. The unit consists mainly of mafic flows, sills, volcaniclastics and volcanic sediment. The similarity of the flows and/or sills makes them hard to differentiate both in drill core and in small surface exposures. In general, some intrusive bodies can be recognized by their occurrence as thin units with chilled contacts. They are dark green to black, fine grained to aphanitic and mafic in composition. Volcaniclastic units consist of dark green to maroon, mainly mafic ash and lapilli tuff. Interflow sediments are thinly laminated, brownish green to grey, tuffaceous argillite, siltstone, and minor chert. The brown colour of the sediments is imparted by fine grained biotite hornfels likely caused by the intrusion of the mafic sills. Chemically the mafic flows (and/or sills) are basalt (and /or gabbro) and have identical major and trace element compositions as the unit 4 subvolcanic mafic sill suggesting they were derived from the same parent magma (Sherlock and Barrett, 1994).

5.3.1.4 Mafic Subvolcanic Intrusion (unit 4)

Mafic subvolcanic intrusion (unit 4) forms a thick (50 meters), massive, mostly conformable body that dilates units 2 felsic volcanic rocks. Margins of the sill are black, chilled and commonly contain thin dyke- and sill-like apophyses that extend out into unit 2 from the main body. The core of the sill is distinctly coarser grained than the margins. It is medium to dark green, plagioclase (2-3 mm) ± augite (2 mm) ± olivine phyric in a fine grained feldspathic matrix. The primary mineralogy is overprinted by an assemblage of medium to coarse grained amphibole (actinolite ?) and chlorite that may be metamorphic in origin (Sherlock et al., 1994). Thin mafic intrusions which cut unit 1 and 2 may be feeder dykes to this unit. Major element analysis of samples from this unit indicate it is sub-alkalic and calc-alkaline in composition (McGuigan et al., 1993). Trace element analysis of samples from this unit by MDRU indicate they are gabbro in composition and their high nickel and chromium contents suggest they contain olivine and spinel (Sherlock and Barrett, 1994).

5.3.2 Intrusive Rocks (unit 6)

Tertiary Sloko rhyolite dykes (unit 6a) form narrow (<10 m) dykes emplaced along northwest to northeast striking and moderate to steep dipping faults. On surface, they form resistive, strongly jointed outcrops. They are cream coloured, quartz (<1mm) phyric, fine grained to aphanitic, and flow banded parallel to contacts.

Quartz and feldspar porphyritic dacite (unit 7b) forms a dyke up to 15 m thick which strikes AZ 048° and dips 56° to the southeast. It is mapped on surface and in the 5900, 5400 and 5200 Level crosscuts as well as intersected in drilling. It is massive, medium green in colour and has a phenocryst assemblage of quartz (<1mm) + feldspar (<1cm, euhedral, zoned plagioclase) ± amphibole (<3mm).

5.4 Structure

5.4.1 Folding

Mount Eaton suite rocks are deformed into anticlinal-synclinal fold pairs. These folds are easterly verging, parasitic folds on the western limb of the regional Mount Eaton anticline. The Mount Eaton anticline axial plane lies east of the map area along the western upper flanks of Mount Eaton and Mount Manville (Mihalynuk et al., 1994).

In detail, parasitic folds between the 4400E and 5300E fault (Central Mine Block) are upright to overturned and have moderate interlimb angles. Axial planes strike AZ166° and dip 79°W; the fold axis plunges 56° in the direction of AZ 329°. These small-scale fold structures have an amplitude of 30-50m and a frequency of 50m. Weak foliation and small scale folds are locally observed within unit 2 exhalitive horizons and in quartz + sericite + pyrite altered volcanic rocks in surface exposures, drill core and underground exposures.

West of the 4400E fault (Western Mine Block), bedding generally strikes north-northeast and dips moderately to steeply west. An overturned, north plunging synclinal fold is interpreted between the F-zone and the 5200 Level alteration zone. The synclinal closure between unit 1 mafic flows and the overlying unit 2 felsic volcanics free airs approximately 500 meters southeast of the 5200 Level portal.

East of the 5300E fault, bedding strikes northeast and dips vertically to steeply westward.

5.4.2 Faulting

Two major periods of faulting are identified in the Tulsequah Chief Map area. The first period of faulting is Mesozoic or older and related to deformation that produced the Mount Eaton anticline. These faults include the 4400E and 5300E faults.

The 4400E fault has a prominent surface expression; it is traceable from the Tulsequah Chief Mine area to the Big Bull Mine, 8km to the south. Underground at the Tulsequah Chief Mine the fault is identified on the 5200, 5400 and 5900 Level crosscuts by 1m of clay gouge. It strikes AZ 355-003° and dips 75-80° east. Stratigraphy is displaced less than 50m right laterally across this fault. Sloko rhyolite dykes are emplaced along part of this fault.

The 5300E fault has a faint surface expression that is traceable to the south where it intersects the 4400E fault 3.5 km south of the Tulsequah Chief Mine. The fault has a number of sub-parallel subsidiary splays that are identified in drilling and in underground workings. Underground the main fault splay is identified in the 5200, 5400, 5500, 5700, 5900 and 6200 Level crosscuts by 1m of clay gouge; locally it is intruded by Sloko Rhyolite dykes. It strikes AZ 001° and dips 80°east; apparent displacement across this fault is less than 30m in a right lateral sense.

A second younger period of faulting is displayed by the Chief fault which juxtaposes strongly deformed rocks of the Mount Stapler suite against less deformed rocks of the Mount Eaton suite. Within the Tulsequah Mine area, the fault strikes north-northeast and dips moderately to steeply west. Slickensides on associated parallel fractures are shallow which suggests mainly strike-slip displacement.

5.5 Alteration

Alteration associated with the H-AB horizon (unit 2) is mainly confined to the top of the Footwall series (unit 1) and within unit 2 itself. The alteration is characterized by an assemblage of silica ± sericite ± chlorite ± pyrite. Silica occurs as thin fracture envelopes to pervasive zones of silica flooding which cause the mafic volcanics to have a bleached grey to white colour. These zones are often crosscut by white quartz ± pyrite ± chalcopyrite ± chlorite veins (<30 cm).

West of the 4400E fault, footwall alteration on surface persists but decreases in intensity as the H-AB horizon pinches out to the south. It grades from an assemblage of pervasive silica, sericite, chlorite and pyrite directly below unit 2 mineralization to chlorite and disseminated pyrite up to 500 m south of the last exposure of exhalitive tuff in unit 2.

East of the 5300E fault, footwall alteration rapidly decreases in intensity and thickness as the I and G horizon pinch out to the north.

Hanging wall alteration is poorly developed and is confined to rhyolite flows and tuffs within and directly above the I and H-AB horizon (unit 2). It characterized by an assemblage of albite, epidote, chlorite, silica and magnetite (± hematite). Albite occurs as thin, white to grey fracture envelopes. Where fracture density is higher or alteration more intense, albite forms irregular pervasive zones, and primary textures are often obscured.

5.6 Metamorphism

Mount Eaton suite is a weakly penetratively deformed sequence that is overprinted by sub-greenschist to middle greenschist facies metamorphism (Mihalynuk et al., 1994). It is characterized by the breakdown of pyroxene and amphibole to chlorite and epidote, and potassium feldspar to sericite. Locally, the Mount Eaton suite in the Tulsequah Chief Mine area has undergone contact metamorphism. It is characterized by quartz ± epidote, chlorite, actinolite, magnetite and garnet veinlets which crosscut pervasive biotite and cordierite. Biotite is fine grained to aphanitic and phlogopitic in composition (Raudsepp, 1992). Cordierite forms subhedral to euhedral porphyroblasts (<1 cm) and often appears to be replacing quartz amygdules within altered basalt flows of unit 1.

6 2003 Exploration Program

Redfern Resources Ltd. carried out an exploration program on the Tulsequah Property between June 2nd and November 18th, 2003. The program involved primarily underground diamond drilling from existing drill stations within the Tulsequah Chief mine, although two surface holes were also completed. During the program, 23 holes totaling 10,109 meters, were drilled.

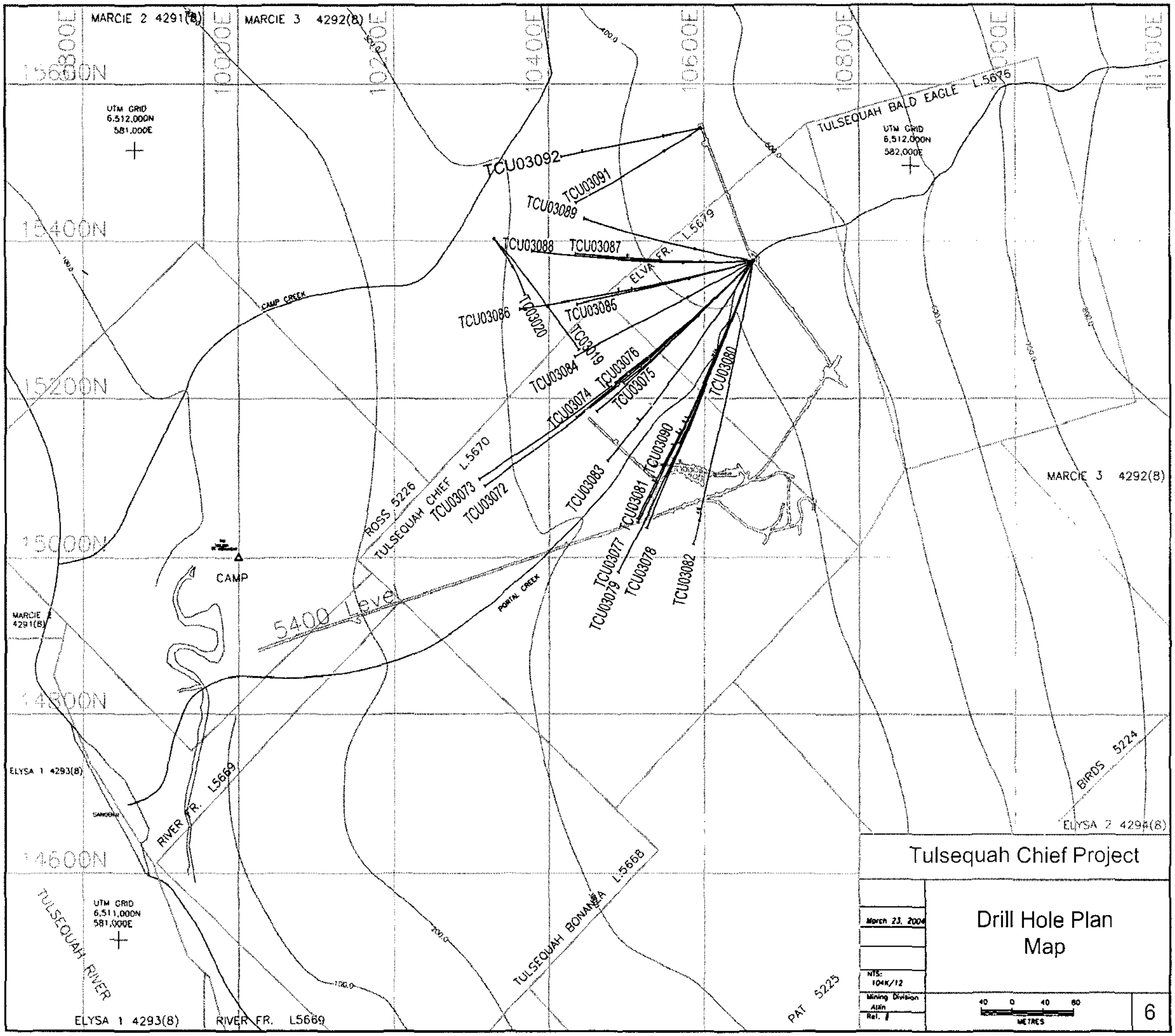
The total cost of the program, including minor rehabilitation of the underground workings, was $1,645,040.52. Drilling was done by Hy-Tech Drilling Ltd. of Smithers, BC. Drilling averaged 68 meters per day, including moves and down-time, over the course of the job. Total drill costs, including footage, moves, standby, materials and core boxes were $71.28 per meter drilled. Collar locations and orientations were surveyed with a theodolite and down hole surveys were done using the Maxi Bore system backed up by an EZ-SHOT single shot instrument. Collar locations are shown in Figure 12.

Drill core was moved by helicopter for the surface holes, and by diesel loci for the underground holes, to the camp where it was logged. Core is cross piled and racked at this location.

Table 6 shows drill hole information.

Table 1: Diamond Drill Hole Information

Hole ID	East	North	Elevation	Length	Azimuth	Dip
TC03019	10329	15403	291.4	496.52	140.44	-70.5
TC03020	10329	15403	291.4	572.73	143.71	-81.5
TCU03072	10663	15374	114	450.50	224.95	0.00
TCU03073	10663	15374	114	451.71	225.27	-11.50
TCU03074	10663	15374	114	322.78	225.73	-22.07
TCU03075	10663	15374	114	425.50	225.41	-48.74
TCU03076	10663	15374	114	450.80	226.69	-61.05
TCU03077	10663	15374	114	383.74	199.45	-17.83
TCU03078	10663	15374	114	395.60	199.74	-26.61
TCU03079	10663	15374	114	539.20	198.80	-36.48
TCU03080	10663	15374	114	636.43	199.68	-73.55
TCU03081	10663	15374	114	545.29	199.43	-48.38
TCU03082	10663	15374	114	386.79	189.82	-19.56
TCU03083	10663	15374	114	335.28	212.56	-19.73
TCU03084	10663	15374	114	395.94	240.99	-49.51
TCU03085	10663	15374	114	405.38	254.47	-52.10
TCU03086	10663	15374	114	414.07	255.23	-42.64
TCU03087	10663	15374	114	462.38	268.84	-58.69
TCU03088	10663	15374	114	458.42	268.40	-51.44
TCU03089	10663	15374	114	398.98	279.91	-55.93
TCU03090	10663	15374	114	250.00	199.67	-9.74
TCU03091	10596	15544	114	420.00	238.00	-63.00
TCU03092	10596	15544	114	420.00	255.00	-60.00



Tulsequah Chief Project
Drill Hole Plan Map
6
March 23, 2004
NTS: 104K/12
Mining Division Atlin
METRES
40 0 40 80
MARCIE 2 4291(8)
MARCIE 3 4292(8)
UTM GRID 6,512,000N 581,000E
UTM GRID 6,512,000N 582,000E
UTM GRID 6,511,000N 581,000E
15600N
15400N
15200N
15000N
14800N
14600N
10000E
10200E
10400E
10600E
10800E
TULSEQUAH BALD EAGLE L.5675
ELVA FR. L.5679
TULSEQUAH CHIEF L.5670
ROSS 5226
RIVER FR. L5669
TULSEQUAH BONANZA L.5668
PAT 5225
BIRDS 5224
ELYSA 1 4293(8)
ELYSA 2 4294(8)
RIVER FR. L5669
TULSEQUAH RIVER
CAMP
CAMP CREEK
PORTAL CREEK
5400 Level
TCU03092
TCU03091
TCU03089
TCU03088
TCU03087
TCU03086
TCU03020
TCU03085
TCU03019
TCU03084
TCU03076
TCU03074
TCU03075
TCU03080
TCU03090
TCU03083
TCU03073
TCU03072
TCU03081
TCU03077
TCU03079
TCU03078
TCU03082

All drill core was geologically logged, photographed and RQD information was collected. Sections which warranted sampling based on visible mineralization or alteration were marked at the beginning and end of the sample interval, and the sample number was marked on the core. Samples were cut with a diamond saw, with half of the core placed in polyethylene sample bags for analysis and the other half returned to the core box. Samples were transported by helicopter or fixed-wing to Atlin and shipped to Whitehorse and then via Greyhound to Eco-Tech Laboratories Ltd. in Kamloops. A total of 1,279 samples were collected from the drill holes.

Samples were analyzed for 28 elements (Ag, Al, As, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sn, Sr, Ti, U, V, W, Y, Zn) by ICP and for gold by fire assay. Details of analytical methods are given in Appendix III. Samples which returned greater than 10,000 ppm Cu, Pb or Zn, or >30 ppm Ag or 1 gpt Au were re-assayed using a fire assay for Ag and standard wet assay technique for Cu, Pb and Zn. The specific gravity of these high-grade samples was measured in the lab.

Drill logs are presented in Appendix I and all analytical results are in Appendix II.

6.1 Results and Interpretation

The 2004 program was designed to test the extension of the known mineralization along strike to the west. This area lies down-dip of the A stope, which was one of the largest, highest grade stopes developed during the Cominco production. Detailed 3D examination of the historic data suggests that the massive sulphide lens exploited by the A stope actually plunges moderately to the northwest, which is oblique to the plunge of the main structures. The drilling was also intended to explore the F zone, which occupies the centre of the F anticline. The F anticline forms part of an anticline / syncline pair to the west of the H syncline.

Significant results from the 2003 program included the intersection of a thick section of massive sulphide mineralization in the F zone, discovery of a high-grade gold zone in a siliceous, sulphide-poor section of hole TCU03077 and the discovery of a new massive sulphide lens in hole TCU03085.

Table 2: 2003 Drill Intersections

Hole #	Horizon	From (m)	To (m)	Length	Est.True Width	Au (gpt)	Ag (gpt)	Cu (%)	Pb (%)	Zn (%)
TCU03072	H	282.3	290.4	8.1	8.1	1.30	20.03	0.59	0.22	2.65
TCU03073	AB1	238.7	248.3	9.6	7.4	1.59	18.10	1.52	0.06	0.41
TCU03074	H	229.0	231.2	2.2	2.2	1.06	51.08	0.24	1.33	2.48
TCU03075		no significant assays								
TCU03076	H	361.8	362.7	0.9	0.9	3.23	256.00	0.27	2.06	12.80
TCU03077	?	234.4	242.0	7.6	7.6	14.58	439.28	0.07	0.62	1.06
and	?	246.2	252.1	5.9	5.9	3.62	173.66	0.03	0.06	0.13
and	H	258.9	279.3	20.4	20.4	0.36	19.60	0.34	0.32	1.78
and	AB2	300.8	303.2	2.4	2.4	0.31	4.76	0.20	0.01	5.32
TCU03078	H	263.2	264.9	1.7	1.7	4.40	252.75	0.65	2.95	7.80
and	AB2	315.8	319.1	3.3	3.3	0.13	1.68	0.34	0.00	3.31
and	AB1	332.7	339.9	7.2	7.2	1.45	13.45	2.11	0.03	4.00
TCU03079	H	256.4	259.9	3.5	3.5	4.30	149.75	0.50	1.80	12.27
TCU03080	H	430.8	467.8	37.0	34.8	3.17	100.85	1.70	1.08	5.29
incl.		433.1	454.8	21.7	20.4	4.33	134.99	2.38	1.45	7.14
	incl.	439.4	449.4	10.0	9.4	6.41	199.93	3.20	2.00	12.65
TCU03081	H	282.4	285.4	3.0	2.8	0.12	6.43	0.15	0.17	2.53
TCU03082	AB1	338.9	344.2	5.3	5.3	0.29	5.88	0.22	0.54	5.25
TCU03083	H	235.0	241.7	6.7	6.7	1.71	57.73	0.22	0.31	1.17
and	AB2	265.5	266.3	0.8	0.8	0.71	166.00	0.68	1.65	7.91
TCU03084		no significant assays								
TCU03085	new	267.1	272.5	5.4	5.1	1.84	80.07	1.89	0.35	6.51
TCU03086	new	240.6	241.4	0.8	0.8	0.70	15.40	0.70	0.19	4.05
TCU03087	new	314.9	322.6	7.7	7.1	1.00	22.40	0.18	1.12	2.63
incl		319.7	322.6	2.9	2.7	0.31	21.20	0.09	2.47	5.50
TCU03088	new	293.8	294.8	1.0	0.9	0.47	17.20	0.14	1.30	3.32
				note: this intersection was truncated by the 4400E fault.						
		296.7	298.6	1.9	1.9	massive pyrite				
		310.2	312.6	2.4	2.3	massive pyrite				
		316.4	321.1	4.8	4.6	massive pyrite				
TCU03089	new	339.6	340.7	1.1	1.1	0.34	10.90	0.54	0.05	5.10
TCU03090	H	Intersected post-mineral dyke								
TCU03091	?	377.1	377.3	0.2	0.2	5.67	3069.00	2.60	4.13	13.80
	new	390.6	402.6	12.1	9.6	0.43	13.59	0.38	0.36	3.39
	incl	397.1	402.6	5.5	4.4	0.55	11.46	0.47	0.66	5.72
TCU03092		faulted out								

Holes were drilled in fans on specified azimuths in order to aid with interpretation on vertical sections, rather than inclined sections as had been done in the past. Following is a brief description of the drill results by section. Drill sections are plotted as Figures xx.xx.

6.1.1 Surface Drill Holes

Two surface holes were completed at an azimuth of 140 degrees. These were intended to test the favourable stratigraphy in the core of the F anticline, down-dip of a previous surface hole, TC87004, drilled by Cominco in 1987. Both of these holes were drilled in the Western Mine Block, west of the 4400E fault.

Both holes penetrated the stratigraphy down to footwall amygdaloidal basalts. Unit 4, the mafic intrusive, was much thicker than expected in these holes, and appears crosscutting, rather than conformable, to the stratigraphy here. More information is required in order to fully understand the geometry of this intrusive unit in this area.

Despite the thickness of mafic intrusive, both holes did intersect strong alteration and anomalous mineralization, indicating that the hydrothermal system was still active in this area, and confirming it as prospective.

In TC03019, a 23.71 meter (358.25m to 381.96m) section of intense silica-sericite-pyrite alteration is correlated with the H-AB2 level. Zinc values in this section were up to 2799 ppm, with copper up to 350 ppm and gold up to 170 ppb. A lower pyrite-rich zone from 386.19m to 401.93m correlates with the AB1 level.

6.1.2 Section Azimuth 190

Only one hole, TCU03082, was drilled on this section, primarily intended to test for the strike extension of mineralization intersected in TCU92046 (11.72% Zn over 6.94 meters at the H level, 1.08% Cu and 11.45% Zn over 3.47 meters at the AB1 level). The stratigraphy in TCU03082 correlated very well with what was expected, however mineralization at both levels was weaker (2608 ppm Zn over 2 meters at the H level and 5.25% Zn over 5.3 meters at the AB1 level). This hole confirmed an overall pattern of weaker mineralization in a central area, flanked by thicker and higher grade mineralization on both sides (see Figure xxx longitudinal section).

6.1.3 Section Azimuth 200

Holes TCU0377, 78, 79, 80, 81 and 90 were completed on this section. Drilling here was designed to test the mine stratigraphy along the west flank of the main deposits and down dip of the A stope. In general, stratigraphic correlations were quite good. Narrow, high grade mineralization within broad, lower grade zones reflects the distal westerly extension of the main deposits.

TCU03077 intersected both the H and AB2 horizons as expected, but also encountered a precious-metal rich siliceous zone stratigraphically above the H. This interval assayed 14.58 gpt gold, 439.28 gpt silver, and only 0.07% copper and 1.06% zinc over a 7.6 meter core length. This zone was not encountered in adjacent holes, suggesting it may be structurally controlled rather than stratigraphic. A strongly altered and stockworked hyaloclastic unit was intersected at the expected AB1 horizon.
TCU03078 intersected mineralization at all three stratigraphic levels, H, AB2 and AB1, with the upper two zones correlating very well with their locations in TCU03077.

TCU03079 intersected a narrow, but very high grade section of massive sulphide with very little alteration at the H level, but only QSP alteration with very weak mineralization at the AB2 and AB1 levels. Alteration and stockworking in the footwall basalts was very well-developed over a broad interval in this hole.

The H level in TCU03081 was represented by a narrow, moderately well mineralized section, with alteration intensity increasing over TCU03079. Alteration and mineralization at the lower two levels was also stronger than in hole 79, although not economically significant.

One infill hole, TCU03080, was drilled into the main deposit on this section, with excellent results. This hole hit a thick, high grade section of sulphides at the H level, possibly representing combined H-AB2 mineralization. A lower alteration zone correlates with the AB1 level, although mineralization here is sub-economic.

6.1.4 Section Azimuth 212.5

One hole, TCU03083, was drilled on this azimuth to test for mineralization in the hangingwall of the 4400E fault, down dip from the A stope. A previous hole, TCU93060, had intersected narrow zones of mineralization at the H level, but hit the 4400E fault prior to testing the AB2 and AB1 levels. TCU03083 had a similar result – returning weak mineralization correlating with the H level, but hitting the fault prior to the lower zones.

6.1.5 Section Azimuth 225

Five holes were drilled on this section in 2003. These were TCU03072, 73, 74, 75 and 76.

TCU03072 and 73 intersected the F zone – that is the continuation of the mineralized stratigraphy to the west of the 4400E fault. TCU03074 passed from just above the H level through the 4400E fault into an enigmatic rhyolite unit cut by a stockwork of quartz-pyrite stringers. TCU03075 and 076 intersected moderate alteration and weak mineralization through the ore stratigraphy.

TCU03072 intersected just over 8 meters of massive and semi-massive sulphide mineralization interpreted to occur at the H stratigraphic level, but on the west side of the 4400E fault. This zone was termed the 'F' zone by Cominco during the mine operation, and was discovered late in the mine life. The mineralization lies on the eastern limb of the F anticline (i.e. the limb between the F anticline and the H syncline), and the hole continued across the fold nose, remaining stratigraphically above the AB1 level.

TCU03073 appears to have missed the H level, coming out of the 4400E fault just above the AB1 level, which is well represented by a 20 meter section of massive pyrite. The hole then passed into altered mafic footwall lithologies, and continued through the core of the F anticline through the AB1 horizon on the western limb of the fold, and terminated going up-section in rhyolites.

The massive sulphide intersection in this hole is very significant, and warrants follow-up. The massive, pyrite and chalcopyrite-rich nature of the mineralization suggests that it is proximal to a vent, rather than the distal equivalent of AB1 mineralization to the east of the 4400E fault. Due to the geometric difficulties of testing the F anticline from the underground drill stations, the area down dip from this section has been poorly tested, and excellent potential exists to extend this zone to depth. Seventy meters down-dip from this hole a previous hole, TC87004 intersected 2 meters of massive pyrite at this same stratigraphic level.

TCU03075 and 076 both intersected narrow mineralized sections representing the distal equivalent of the H deposit. In TCU03075, this included a distinct, angular fragment of high-grade zinc-rich massive sulphide, while TCU03076 intersected a narrow, but very high-grade section of stratiform massive sulphide. One observation is that these holes are separated from the H deposit by less well-mineralized holes, such as TCU89014 and TCU93059, and only two holes have been drilled to the west, both on the west side of the 4400E fault. Thus, it is possible that the intersections in TCU075 and 76 represent mineralization which is distal to an as yet undiscovered deposit located to the west.

6.1.6 Section Azimuth 242

One hole, TCU03084, was drilled on this section. It intersected a thick zone of silica-sericite-pyrite alteration within the rhyolites at the H and AB2 levels, and hit the 4400E fault prior to testing the AB1 level. Metal values were anomalous within the alteration zone, but in no ore-grade intersections were drilled.

6.1.7 Section Azimuth 257

Two holes, TCU03085 and 086, were drilled on this section. TCU03085 was the discovery hole to a new massive sulphide lens which sits stratigraphically above the H level, and is tentatively correlated with the 'I' mineralized stratigraphy which was originally discovered and mined by Cominco. Extensive drilling has conclusively established that this new lens is not contiguous with the previously-know mineralization, but rather represents a new deposit at the same stratigraphic level.

Evidence for mineralization at this level was provided by previous holes TCU89016, TCU90027 and TCU92041. These holes intersected alteration and weak mineralization over 100 meters stratigraphically above the main mineralized section.

TCU03085 intersected 8.14 meters of massive sulphide. The zone consisted of a barren, massive pyrite zone at the top underlain by copper-rich (1 to 4%) massive pyrite underlain by zinc-rich (23 to 25%) massive sulphide. This zone was underlain by about 38 meters of intensely altered rhyolites which were truncated by the 4400E fault. Footwall mafic volcanics were penetrated to the west of the fault. TCU03086 was drilled up dip of this hole, and intersected 0.74 meters of mineralization which was truncated by the 4400E fault.

6.1.8 Section Azimuth 270

Two holes, TCU03087 and 88 were drilled on this section. TCU03087 intersected a broad zone of lower grade mineralization which correlates with the sulphide intersection in TCU03085. TCU03088 intersected 1 meter of mineralization which was truncated by the 4400E fault. This hole, along with TCU02086, indicate that this sulphide lens has been cut by the 4400E fault, and should occur on the west side of the fault. Further drilling is required to find and evaluate the deposit west of the fault.

TCU03087 is an interesting hole in that, after passing through the mineralized interval, it intersected variably, but typically strongly, altered rhyolites down to a conformable contact with amygdaloidal basalt. No obvious fault occurs between the mineralization and the basalt, which raises the possibility that this "new" lens is actually the H stratigraphic level, somehow moved to an apparently "higher" position by faulting. This is difficult to reconcile with hole TCU89016 and TCU90027 which clearly intersected two zones of alteration and mineralization separated by unaltered rhyolites. More work is required to resolve this problem.

6.1.9 Section Azimuth 285

Only one hole, TCU03089, was drilled on this section. This hole intersected a narrow mineralized zone underlain by strong alteration prior to hitting the 4400E fault. Mafic footwall rocks occur to the west of the fault in this hole.

6.1.10 Section Azimuth 236

Both this section and Section Azimuth 255 are cut along the drill station located at the end of the North Drift, as the final two holes of the program, TCU03091 and 92 were drilled from this station. TCU03091 lies on this section, and was drilled to test the I zone up dip from an earlier intersection in TCU90027. It hit a broad zone of moderate grade mineralization which correlates very well with the zone in TCU90027. The hole terminated in an andesite dyke, which appears to occupy a splay off the 4400E fault.

Also of interest in this hole was an extremely high grade (13.8% zinc, 5.7 gpt gold and 3069 gpt silver) fragment of massive sulphide in a fault zone located above the main mineralized section.

6.1.11 Section Azimuth 255

Hole TCU03092 was drilled on this section in order to test the upper zone intersected in TCU90027. This hole intersected weak mineralization within a zone of silica-sericite-pyrite altered rhyolite prior to hitting a fault zone which is interpreted to be a splay of the 4400E fault. The hole appears to have hit the fault prior to testing the mineralized zone.

7 Recommendations

The 2003 drill program at the Tulsequah Chief property clearly demonstrated the excellent potential that exists to add to the currently defined resource through the discovery and delineation of satellite deposits. Significant intersections in TCU03073 (AB1 stratigraphic level) and TCU03085 (I stratigraphic level) indicate the occurrence of sulphide lenses which have not been fully delineated by drilling. Narrower mineralized zones in TCU03075 and 076 further indicate the possibility of additional mineralization lying to the west of the H deposit.

Although additional drilling is warranted to follow up these intersections, there is a geometry problem in trying to target favourable areas from the existing underground development. There also exists an area of higher potential for the delineation of additional massive sulphide mineralization: the area down-plunge of the main H deposit. For these reasons, it is recommended that the next phase of drilling be targeted down-plunge on the H deposit, below hole TCU92036.

In addition to this resource expansion drilling, additional drilling should be done in the H and G deposits in order to provide data which will allow these resources, in their currently known entirety, to be classified as an Indicated Resource.

In order to test the deeper extension of the deposit, the North Drift will have to be extended, and a new drill station established at the end. An extension of 160 meters would allow for drill testing of the stratigraphy extending some 300 meters down-plunge from TCU92036. A program of six holes totaling 6,900 meters has been proposed to initially test this area.

Infill drilling on the H and G deposits will require approximately 23,000 meters of drilling, to achieve a drill hole intersection spacing of 40 meters. It is expected that this drill hole spacing will be sufficient to provide an Indicated Resource. These holes will be drilled from existing drill stations on the 5400 Level.

In order to expedite the program, it is proposed to use three drills to carry it out. It is recommended that underground development begin no later than mid-April. Drilling with the one drill currently on site should begin at about the same time, with two additional drills to be added once the airstrip is free of snow, expected to be early May. The program should last until late September or early October.

Table 3: Proposed Budget for Recommended Work

Category	Detail	Unit cost	# Units			Total Cost
Communications	Long Distance	$ 0.16	6000	minutes		$ 960.00
	Sat Phone Rental	$ 5,000.00	6	months		$ 30,000.00
	Installation					$ 3,000.00
Office supplies						$ 2,000.00
Publication/map/data						$ 1,000.00
Travel	Air fares, in-transit accom. and meals	$ 620.00	60	man-trips		$ 37,200.00
Accomodation		$ 2,080.00	1	months		$ 2,080.00
Groceries		$ 30.00	4500	mandays		$ 135,000.00
Sample shipping		$ 1.00	3000	samples		$ 3,000.00
Salary and Wages						$ 550,000.00
Geological Consulting		$ 600.00	50	days		$ 30,000.00
Draft/plot/reproduction						$ 2,500.00
Fixed Wing						$ 500,000.00
Helicopter		$ 950.00	500	hours		$ 475,000.00
Assay and analysis	Core Samples - ICP	$ 9.00	3000	samples	$ 27,000.00	
	- Assay	$ 9.00	2500		$ 22,500.00	
						$ 49,500.00
Drilling	Footage	$ 75.00	30000	meters	$ 2,250,000.00	$ 2,250,000.00
	Materials					$ 100,000.00
Underground Development						$ 300,000.00
Equipment Purchase						$ 10,000.00
Equipment Rental		$ -	0	months		$ 10,000.00
Field/technical supplies						$ 4,000.00
Construction supplies						$ 10,000.00
Fuel		$ 0.95	288000	liter		$ 273,600.00
Spare parts / repairs						$ 5,000.00
	TOTAL					$ 4,783,840.00

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APPENDIX III
ANALYTICAL METHODS

SAMPLE PREPARATION

Samples are catalogued and dried. Soils are prepared by sieving through an 80 mesh screen to obtain a minus 80 mesh fraction. Samples unable to produce adequate minus 80 mesh material are screened at a coarser fraction. These samples are flagged with the relevant mesh. Rock samples are 2 stage crushed to minus 10 mesh and a 250 gram subsample is pulverized on a ring mill pulverizer to -140 mesh. The subsample is rolled, homogenized and bagged in a prenumbered bag.

GEOCHEMICAL GOLD ANALYSIS

The sample is weighed to 30 grams and fused along with proper fluxing materials. The bead is digested in aqua regia and analyzed on an atomic absorption instrument. Over-range values for rocks are re-analyzed using gold assay methods.

Appropriate reference materials accompany the samples through the process allowing for quality control assessment. Results are entered and printed along with quality control data (repeats and standards). The data is faxed and/or mailed to the client.

GOLD ASSAY

Samples are sorted and dried (if necessary). The samples are crushed through a jaw crusher and cone or rolls crusher to –10 mesh. The sample is split through a Jones riffle until a –250 gram sub sample is achieved. The sub sample is pulverized in a ring & puck pulverizer to 95% - 140 mesh. The sample is rolled to homogenize.

A ½ 1.0 A.T. sample size I fire assayed using appropriate fluxes. The resultant dore bead is parted and then digested with aqua regia and then analyzed on a Perkin Elmer AA instrument.

Appropriate standards and repeat sample (Quality Control Components) accompany the samples on the data sheet.

METALLIC GOLD ASSAY

Samples are catalogued and dried. Rock samples are two stage crushed to minus 10 mesh, then split to achieve a 250 gram (approximate) sub sample. The sample is pulverized to 95% -140 mesh. The sample is weighed, then rolled and homogenized and screened at 140 mesh.

The –140 mesh fraction is homogenized and 2 samples are fire assayed for Au. The +140 mesh material is assayed entirely. The resultant fire assay bead is digested with acid and after parting is analyzed on a Perkin Elmer atomic absorption machine using air-acetylene flame to .03 grams/t detection limit.

The entire set of samples is redone if the quality control standard is outside 2 standard deviations or if the blank is greater than .015 g/t.

The values are calculated back to the original sample weight providing a net gold value as well as 2-140 values and a single +140 mesh value.

Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results are printed on a laser printer and are faxed and or mailed to the client.

MULTI ELEMENT ICP ANALYSIS

A 0.5 gram sample is digested with 3ml of a 3:1:2 (HCl:HN03:H20) which contains beryllium which acts as an internal standard for 90 minutes in a water bath at 95°C. The sample is then diluted to 10ml with water. The sample is analysed on a Jarrell Ash ICP unit.

Results are collated by computer and are printed along with accompanying quality control data (repeats and standards). Results are printed on a laser printer and are faxed and/or mailed to the client.

	Detection Limit			Detection Limit	
	Low	Upper		Low	Upper
Ag	0.2ppm	30.0ppm	Mo	1ppm	10,000ppm
Al	0.01%	10.0%	Na	0.01%	10.00%
As	5ppm	10,000ppm	Ni	1ppm	10,000ppm
Ba	5ppm	10,000ppm	P	10ppm	10,000ppm
Bi	5ppm	10,000ppm	Pb	2ppm	10,000ppm
Ca	0.01%	10,00%	Sb	5ppm	10,000ppm
Cd	1ppm	10,000ppm	Sn	20ppm	10,000ppm
Co	1ppm	10,000ppm	Sr	1ppm	10,000ppm
Cr	1ppm	10,000ppm	Ti	0.01%	10.00%
Cu	1ppm	10,000ppm	U	10ppm	10,000ppm
Fe	0.01%	10.00%	V	1ppm	10,000ppm
La	10ppm	10,000ppm	Y	1ppm	10,000ppm
Mg	0.01%	10.00%	Zn	1ppm	10,000ppm
Mn	1ppm	10,000ppm			

BASE METAL ASSAYS (Ag,Cu,Pb,Zn)

Samples are catalogued and dried. Rock samples are 2 stage crushed followed by pulverizing a 250 gram subsample. The subsample is rolled and homogenized and bagged in a prenumbered bag.

A suitable sample weight is digested with aqua regia. The sample is allowed to cool, bulked up to a suitable volume and analysed by an atomic absorption instrument, to .01 % detection limit.

Appropriate certified reference materials accompany the samples through the process providing accurate quality control. Result data is entered along with standards and repeat values and are faxed and/or mailed to the client.

APPENDIX IV: STATEMENT OF COSTS

Salaries and Wages	Project Geologist	June 2 - Nov. 13	145 days	$ 428.62	per day	$ 62,149.90	
	Geologist	June 9 - Oct. 22	129 days	$ 350.00	per day	$ 45,150.00	
	Camp Manager	*June 5 - Nov. 18*	*158 days*	*$ 332.24*	*per day*	*$ 52,493.92*	
	Core Technician	June 5 - Nov. 18	142 days	$ 257.19	per day	$ 36,520.98	
	Maintenance Foreman	July 10 - Nov. 13	96 days	$ 282.83	per day	$ 27,151.68	
	Shift Boss	June 26 - Nov. 14	151 days	$ 393.51	per day	$ 59,420.01	
	Combined Cook		167 days	$ 272.22	per day	$ 45,461.24	
							$ 328,347.73
Geological Consulting	*Lithogeochemical Study*						*$ 9,916.75*
Room & Board		June 3 to November 15	1581 manday	$ 90.60	per manday		$ 143,245.56
Communications	Satellite Phone, courier	June to November	6 months	$ 5,741.78	per month		$ 34,450.65
Transportation	Helicopter and Fuel					$ 139,685.60	
	Fixed wing and Fuel					$ 118,464.10	
	Car Rental					$ 2,678.92	
	Commercial Travel					*$ 11,299.53*	
							$ 272,128.15
Freight & Shipping							$ 13,560.99
Underground Rehabilitation						$ 24,754.35	
Diamond Drilling			10109 meters	$ 71.28	per meter	$ 720,553.81	
Surveying						$ 8,320.00	
							$ 753,628.16
Analytical	Assaying		1279 samples	$ 20.60	per sample	$ 26,346.49	
	Whole Rock		217 samples	$ 38.64	per sample	$ 8,385.36	
	Assay Standards					$ 1,225.75	
							$ 35,957.60
Instrument Rental	Maxi-Bore hole deviation survey instrument		4.7 months	$ 7,000.00	per month	$ 32,900.00	
	EZ Shot hole deviation survey instrument		*6 months*	*$ 1,600.00*	*per month*	*$ 9,600.00*	
	Total Station survey instrument		5.5 months	$ 1,000.00	per month	$ 5,500.00	
							$ 48,000.00
Field, Office and Technical Supplies							$ 4,882.00
Computer Software & Supplies							$ 922.93
	Grand Total						**$ 1,645,040.52**

APPENDIX V
STATEMENT OF QUALIFICATIONS

I, Robert G. Carmichael, of 1142 Arborlynn Drive, North Vancouver, BC, do hereby certify that:

- I am currently employed as Vice President, Exploration by Redcorp Ventures Ltd.;
- I am a qualified person as defined by National Instrument 43-101;
- I am a graduate of the University of British Columbia (1987) with a Bachelor of Applied Science degree in Geological Engineering;
- I have worked in the field of mining exploration since graduation, primarily on exploration and delineation of volcanogenic massive sulphide deposits located in British Columbia and Portugal;
- I have been a Registered Professional Engineer under the Association of Professional Engineers and Geoscientists of BC since 1992;
- The information, opinions, conclusions and recommendations contained in this report are based on work performed and supervised by myself on the Hawk property during the period from July 23 to September 20, 2002.
- I have read NI 43-101 and Form 43-101F1 and this report has been prepared in compliance with both.
- I am not aware of any material fact or material change with respect to the Hawk property which is not reflected in this technical report.

Robert G. Carmichael, P.Eng.