
Tulsequah Chief Project

PRE-APPLICATION FOR MINE DEVELOPMENT CERTIFICATE

Submitted to:

Northwest Mine Development Review Committee
Smithers, British Columbia

Submitted by:



Redfern Resources Ltd.
Richmond, British Columbia

June 1994



PROJECT FACT SHEET

CORPORATE DATA

Project Name: Tulsequah Chief Project

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PROJECT DETAILS

Project Location: Approximately 100 km south of Atlin,
B.C. and 64 km northeast of Juneau,
Alaska @ 58°43'N, 133°35'W

Exploration Cost to Date: CDN\$12 million

Estimated 1994 Exploration Cost: CDN\$2.5 million

Minerals: Copper, lead, zinc, gold, silver

**Mining Method and
Production Rate:** Shrinkage and blasthole stoping;
2,250-3,000 tpd (depending on reserves)

Process Plant/Mill: Alternative 1 - east side of Tulsequah R.
near present campsite
Alternative 2 - east side of Tulsequah R.
south of present campsite
Alternative 3 - west side of Tulsequah R.
north of Polaris-Taku mine site

Ore Beneficiation Process: Flotation/Gravity Concentration

Proposed Mine Life: 9 years

MINERAL RESERVES

Resources: Geological: 8.58 million tonnes @
1.41% Cu, 1.23% Pb,
6.65% Zn, 2.52 g/tonne Au
and 105.66 g/tonne Ag

Cut-off Grade: CDN\$45 Net Smelter Return/tonne

Potential for Additional Reserves: Excellent at medium and deeper depths at
Tulsequah Chief mine, also potential at
Big Bull mine

ACCESS/TRANSPORTATION

**Proposed Roadway Alternatives
(During Operations):** *Alternative A:* 50 km of new gravel road
from mine site to Swede Point. Barge
service from Swede Point to Juneau for
transshipment of concentrate and
supplies.

Alternative B: Approximately 120 km of
new road through Shazah Creek valley
connecting to existing road system south
of Atlin, B.C. Road would be gated and
radio-controlled.

Air Access: By helicopter or fixed-wing from Atlin or
Juneau at present. Also from Terrace,
Smithers or Vancouver during
operations.

POWER SUPPLY

Diesel generation during exploration,
development and operation

WORKFORCE INFORMATION

Operation Workforce:

200

Housing Options:

Crews will be flown in from Vancouver
or Smithers and will reside in a 200
person camp on the flank of Mt. Eaton to
the north of the mine site.

**Proposed Workforce
Rotation/Schedule:**

Mine: 2 x 12-hour shifts, 7 days a week
on a 4 week in, 2 week out rotation.
Mill: 2 x 12-hour shifts, 7 days a week
on a 2 week in, 2 week out rotation.

PRELIMINARY DEVELOPMENT SCHEDULE

Detailed Feasibility Study:

May 1995

**Application for Mine
Development Certificate (MDC):**

July/August 1995

MDC Approval:

December 1995

Site Construction Startup:

May 1996

**Applicable Alaska State and
U.S. Federal Approvals**

To be determined with appropriate
regulatory authorities

Mine Production Startup:

August 1997

1.0 INTRODUCTION

The Tulsequah Chief project, 100% owned by Redfern Resources Ltd. (Redfern), is a former base and precious metals producing mine hosting copper, lead, zinc, gold and silver mineralization. The project site is located in the British Columbia Coastal Mountain Range near the Alaska border, some 64 kilometres northeast of Juneau, Alaska (Figure 1-1).

1.1 Preamble

The Tulsequah Chief project area, characterized by rugged coastal terrain, is situated in the Tulsequah River valley near its confluence with the Taku River at an elevation between 40 and 1800 metres. Access to the property is presently via helicopter or fixed-wing aircraft from Atlin, B.C. with a nominal flight time of roughly 35 minutes. At the time of submission of this document two options for permanent access are being considered. One alternative requires the construction of approximately 50 kilometres of gravel road from the mine site to Swede Point on the north shore of Taku Inlet. From this point, transshipment of ore concentrate and supplies would be facilitated by barge from Juneau, Alaska (Figures 1-1 and 5-1). A second alternative (Figure 5-2) would see the construction of approximately 120 kilometres of new road up the Shazah Creek valley along the north side of Mount Eaton, to connect to the existing Canadian road system at Atlin, B.C. From here concentrate could be hauled to port facilities in Skagway, Alaska.

This *Pre-Application for Mine Development Certificate (Prospectus)* describes the present conceptual plans for developing and operating the Tulsequah Chief project and for ensuring that it is managed in a manner which is environmentally acceptable to all parties involved. It is submitted as a foundation for British Columbian and Canadian government authorities to establish terms-of-reference for development approval (*i.e.*, issuance of a Mine Development Certificate) and the acquisition of subsequent operating permits. The *Prospectus* is also being submitted to federal and state reviewing agencies in Alaska (Appendix A) for their consideration as it pertains to U.S. assessment and permitting requirements.

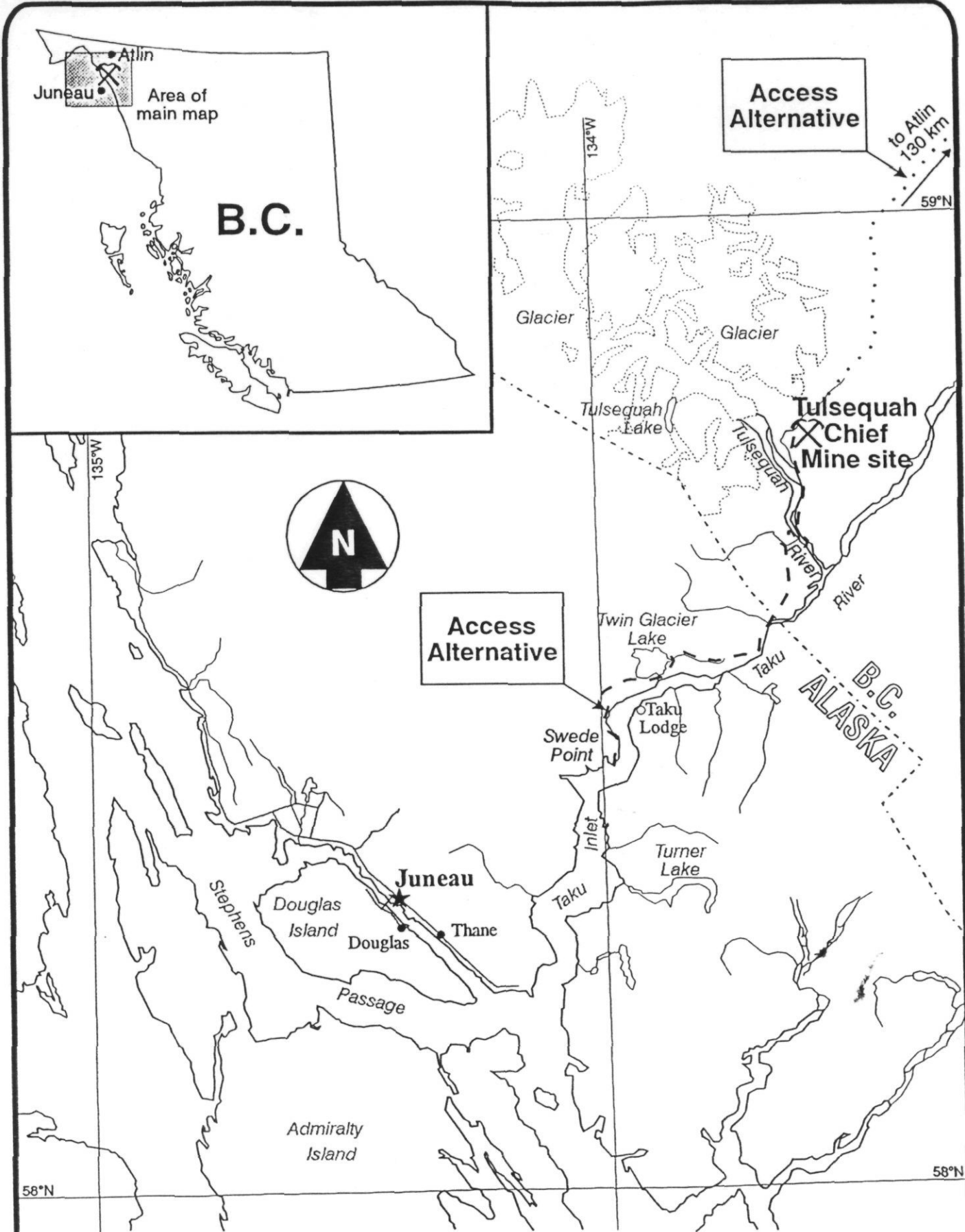


Figure 1-1: General Project Location



Scale: 1:600 000



The *Tulsequah Chief Project Prospectus* is structured to provide an understanding of the exploration history and geology of the property, to outline project development concepts (e.g. mining and milling), and to discuss existing environmental conditions at, and surrounding, the project area. Finally, a brief description of the baseline environmental monitoring program being completed in support of development approval applications is presented. A more complete and detailed description of the environmental baseline monitoring program will be presented in a companion document entitled *The Tulsequah Chief Project - Baseline Environmental Study Protocols*.

The environmental program for the Tulsequah Chief project is being established to ensure that data necessary for environmental management planning are collected in support of the intended Application for a Mine Development Certificate. The environmental program has been designed to ensure that project development, operation and ultimately, closure, are completed in a manner consistent with Redfern's commitment to environmental protection.

A site visit with representatives of the Northwest Mine Development Review Committee was conducted in June 1994. Comments from this visit have been incorporated into this and the *Protocols* document. A second government site visit with B.C. and Alaskan representatives is intended for August or September 1994.

1.2 Project Location and Setting

The Tulsequah Chief property is located in northwestern British Columbia approximately 100 kilometres south of Atlin, B.C. and 64 kilometres northeast of Juneau, Alaska at 58°43'N and 133°35' W (Figures 1-1 and 1-2). Situated near the valley floor on the east bank of the Tulsequah River, the project site is characterized by heavy precipitation, steep terrain, mountain streams and glaciers. Drainage from the Tulsequah Chief project is carried by the Tulsequah River south into the Taku River, eventually emptying into the Taku Inlet south of Juneau. The ore deposit is situated under Mount Eaton from 120 metres above sea level to at least 660 metres below sea level.

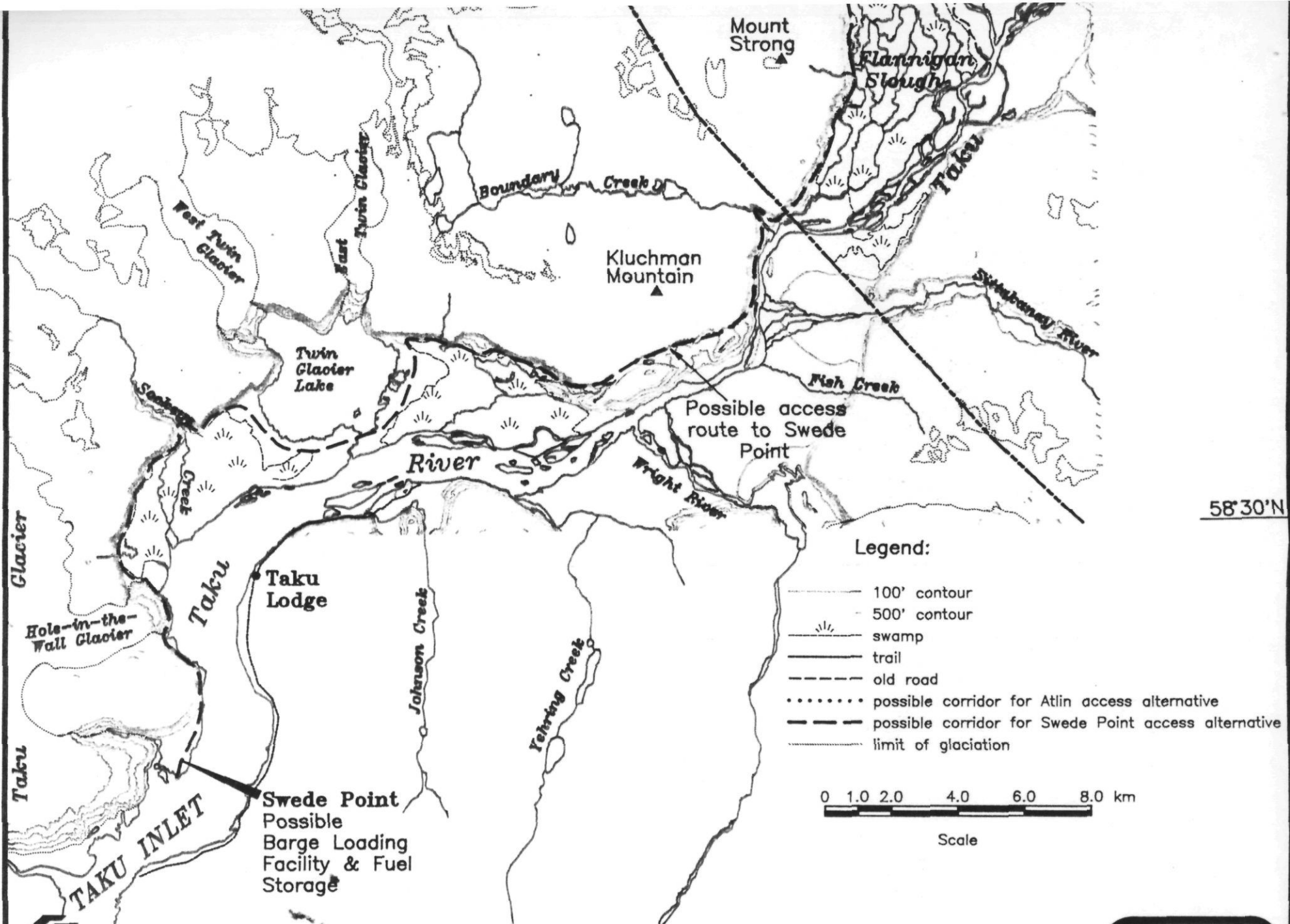


Figure 1-2: Access and Site Location Map



134°W

133°30'W



Possible access route to Atlin

58°45'N

B.C.
ALASKA

Devil's Paw

CANADA
U.S.A.

Tulsequah Glacier

Tulsequah Lake

Tulsequah

Shasach Creek

Creek

Mount Eaton

Proposed
Tulsequah Chief
Mine Site

Polaris-Taku Mine

Sparling

Banker

Big Bull

Canyon

Wills Creek

Creek

Bacon

Mount Strong

Flannigan Slough

Airfield

Atlin River

1.3 Claim Status

Based on the exploration and acquisition history of the various claims comprising the property, it has been informally divided into three blocks: Tulsequah Chief, Big Bull and Banker. In each case the blocks consist of both modified grid located and crown granted claims. All claims, recorded in the Atlin Mining Division, are valid with most in good standing to the year 2000. Crown granted claims are maintained through yearly tax payments.

1.4 Historical Perspective

In 1923, W. Kirkham of Juneau, Alaska discovered the Tulsequah Chief deposit while prospecting in the Tulsequah River valley. The initial discovery of a highly mineralized showing located above the present 6500 level adit (400 m above sea level) initiated a wave of prospecting activity in the area. The ensuing years of intensive prospecting efforts culminated in the 1929 discovery of the Big Bull deposit some seven kilometres to the south. In the same year, discoveries were also made at the Sparling, Banker and Polaris-Taku deposits.

The Tulsequah Chief and Big Bull deposits were acquired by Cominco in 1946 and were put into production by 1951. For six years, both deposits were mined at an average rate of 482 tonnes/day (530 tons/day). In 1957, Cominco was forced to close its operations with substantial reserves in place due to low metal prices. From 1957 until 1971, the mine site lay dormant and unexplored.

During operations in the 1950's, the Tulsequah Chief deposits were considered to be shear-zone controlled. In 1971, re-examination of the local geology by Cominco geologists led to identification of volcanogenic massive sulphide (VMS) mineralization. Ten years passed before the next wave of exploration commenced. In 1981, 1:2,500 and 1:50,000 mapping was conducted. This work was followed in 1982 by airborne Dighem and Questor Input AEM geophysical surveys conducted by Cominco and Redfern Resources Ltd., respectively. The 1:50,000 mapping work was originally published in 1984 and then in 1987 it was further refined and re-published (Payne and Sisson, 1987) for Cominco.

In 1987, ongoing discussions between Cominco and Redfern led to an agreement whereby Redfern acquired the right to earn up to a 40% interest in the Tulsequah

Chief deposits. Since that time, exploration has continued every year to date with concurrent negotiations resulting in Redfern's present 100% ownership of the property.

The following is a chronological summary of exploration and environmental activity at the Tulsequah Chief deposit since 1987.

- 1987** Surface drilling: 5 holes totalling 3,523.8 m with 2 "ore" grade intersections and 3 intersections with thick, altered sub-economic grade intervals. 1:10,000 mapping completed over the entire property, 1:2,500 mapping on Tulsequah claim block and 1:1,000 mapping over the area of the deposits.
- 1988** Surface drilling: 2 holes totalling 485.9 m to evaluate down-dip extension of 5200 level portal alteration. Underground drilling: 11 holes totalling 3,045 m with 8 significant intersections of mineralized zones. Rehabilitation and 1:500 mapping of 884 m of 5400 level portal in addition to continued surface mapping. Water quality sampling program initiated.
- 1989** Underground drilling: 10 holes totalling 4,890 m with 8 holes intersecting significant mineralized intervals with increasing thickness at depth. Further rehabilitation of the 5400 level portal in addition to 174 m of new drifting on the 5400 level crosscut. Specific gravity determinations made on mineralized intersections from 1987 - 1989 drill holes. Reserve to the 3500 level calculated to be 5.27 million tonnes (5.8 million tons) @ 1.6% Cu, 1.3% Pb, 7.0% Zn, 2.74 g/tonne Au (0.08 oz/ton) and 99 g/tonne Ag (2.9 oz/ton). Water quality sampling continued.
- 1990** Underground drilling: 8 holes totalling 5,980 m and obtaining the thickest intersection to date. Drifting at the 5400 level extended the crosscut portal by 183 m; drill stations were also cut at this time. Reserve calculated to be 6.3 million tonnes (6.93 million tons) @ 1.58% Cu, 1.33% Pb, 7.59% Zn, 2.75 g/tonne Au (0.08 oz/ton) and 115 g/tonne Ag (3.35 oz/ton). Including lower grade intersections, further calculations give a reserve of 7.3 million tonnes (8.0 million

tons) @ 1.55% Cu, 1.22% Pb, 6.81% Zn, 2.74 g/tonne Au (0.08 oz/ton) and 109 g/tonne Ag (3.19 oz/ton).

1991 Cambria Geological Ltd. was contracted by Redfern Resources Ltd. to continue the underground program to confirm and expand deep mineralization. Underground drilling: 6 holes totalling 3,088.8 m, all intersecting targeted zones. Geological re-interpretation and reserve re-calculation. Reserve calculated at 7.6 million tonnes (8.36 million tons) @ 1.62% Cu, 1.19% Pb, 6.51% Zn, 2.88 g/tonne Au (0.084 oz/ton) and 116.6 g/tonne Ag (3.4 oz/ton).

1992 Further re-logging of old core and re-interpretation continued by Cambria Geological on behalf of Redfern. Surface mapping was conducted on a 20 line-kilometre grid over the Tulsequah Chief mine area and further mapping was done on the Big Bull property. Portions of the 5200 and 5400 levels were mapped and surveyed; surveying of prior drill collars and tie points were integrated into the national grid system. Underground drilling: 13 holes totalling 4,579 m completed from 5400 level. Geological reserve calculated to be 8.5 million tonnes @ 1.48% Cu, 1.17% Pb, 6.85% Zn, 2.56 g/tonne Au and 103.42 g/tonne Ag. Environmental monitoring of minewater discharge and watercourses potentially affected by the Tulsequah operation commenced in April.

1993 Drilling continued with 6,238 m of exploratory and in-fill underground drilling at Tulsequah Chief Mine area and 5,368 m of surface drilling at Tulsequah and Big Bull Mine areas. Existing grids at Tulsequah and Big Bull were extended and new grids were added south of Tulsequah Chief and at the Banker prospect. The additional 62 line-kilometres of grid was mapped and surveyed using geophysics. Geological reserve calculated to be 8.5 million tonnes @ 1.41% Cu, 1.23% Pb, 6.65% Zn, 2.52 g/tonne Au and 105.66 g/tonne Ag. Environmental monitoring of minewater discharge and ambient conditions continued as in 1992.

1994 Drilling to continue at the Big Bull. Underground drilling at Tulsequah Chief will concentrate on expanding reserves at shallow and moderate depth levels. Drilling to commence in the 5200 zone, a major alteration system located southwest of the Tulsequah Chief. An environmental management program has been initiated to collect and interpret baseline information on meteorology, hydrology, water quality, soils/terrain, vegetation, and fisheries and wildlife resources in the Tulsequah Chief project area (further discussed in Chapter 7.0 of this document).

2.0 GEOLOGY AND RESERVES

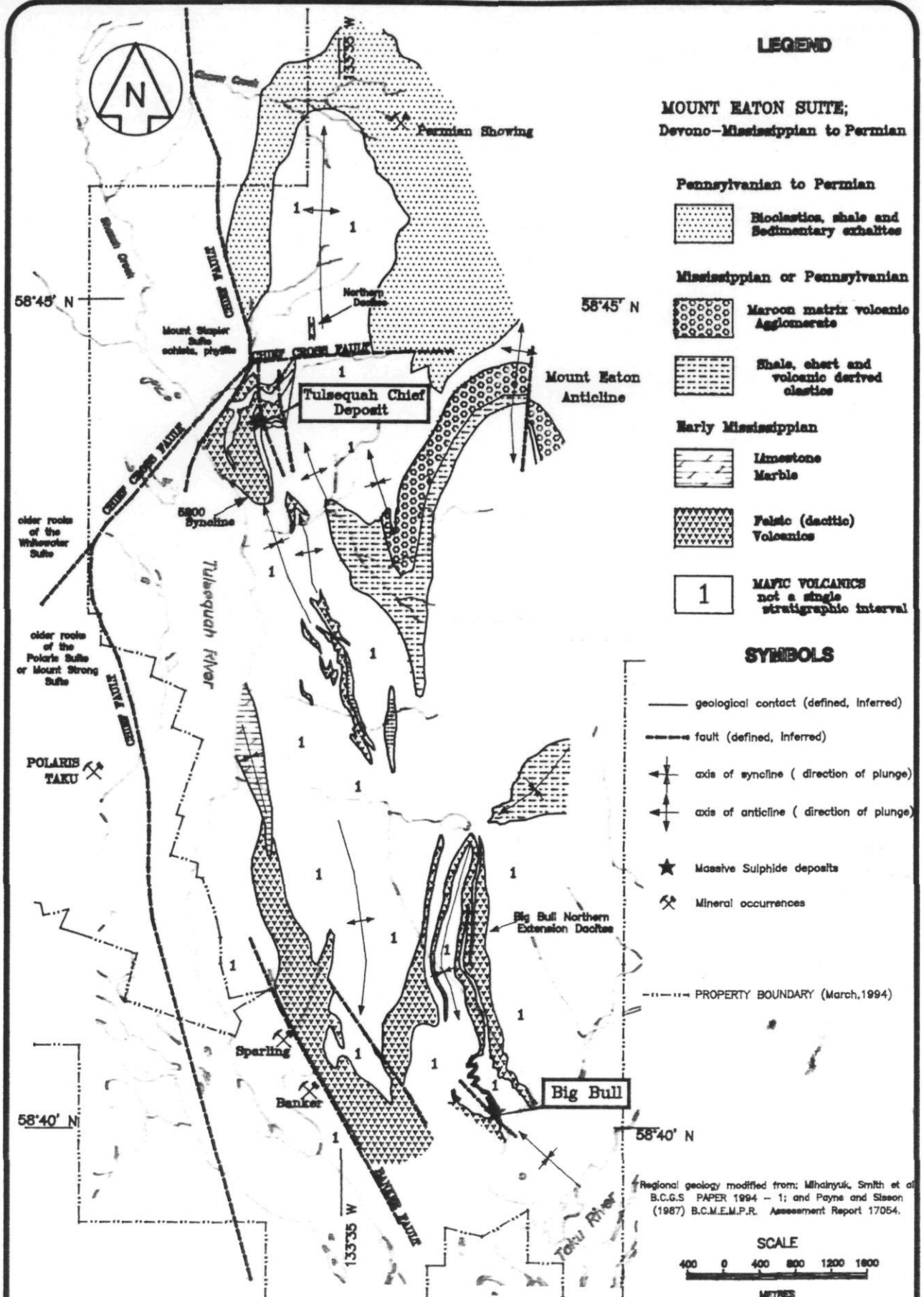
The Tulsequah Chief property is predominantly underlain by folded, faulted and metamorphosed pre-Permian, volcanic-dominated rocks of the Mount Eaton Group as well as intrusive rocks of the Coast Plutonic belt. A large Tertiary age quartz monzonite intrusion occupies the area east of Mount Eaton. Numerous Tertiary Sloko rhyolite and quartz feldspar porphyry dykes intrude the Mount Eaton Group rocks and are often emplaced along earlier fault structures.

The north trending regional Chief fault separates the Mount Eaton Group from more deformed and metamorphosed rocks to the west. The Chief fault is located on the west side of the property and extends north from the confluence of the Taku and Tulsequah Rivers, runs parallel to the Tulsequah River and passes 800 m west of the main Tulsequah Chief deposit (Figure 2-1).

2.1 Tulsequah Chief Property Geology

The Mount Eaton Group consists of bimodal volcanics and associated sediments which have been folded, faulted and metamorphosed to lower greenschist grade (Figure 2-1). The lower portion of the Mount Eaton block contains felsic volcanic rocks within the dominantly mafic stratigraphy. These felsic rocks of the lower division host the known volcanogenic massive sulphide deposits at the past producing Tulsequah Chief and Big Bull Mines. In the vicinity of the Tulsequah Chief Mine the rocks are folded into northwest plunging, overturned to steeply west-dipping parasitic folds on the west flank of the regional Mount Eaton anticline. Faults subparallel to the axial planes of these folds dissect the mine stratigraphy and divide the deposit into three fault bounded blocks (Figure 2-2). The West Mine Block lies west of the 4400E fault, the Central Mine Block is situated between the 4400E and 5300E faults and the East Mine Block is east of the 5300E fault.

The stratigraphy of the Mount Eaton Block has been subdivided into three major divisions (Figure 2-1). Mafic rocks are ubiquitous throughout the Block and consist of undifferentiated basaltic flows, tuffs, flow breccias and hyaloclastites.



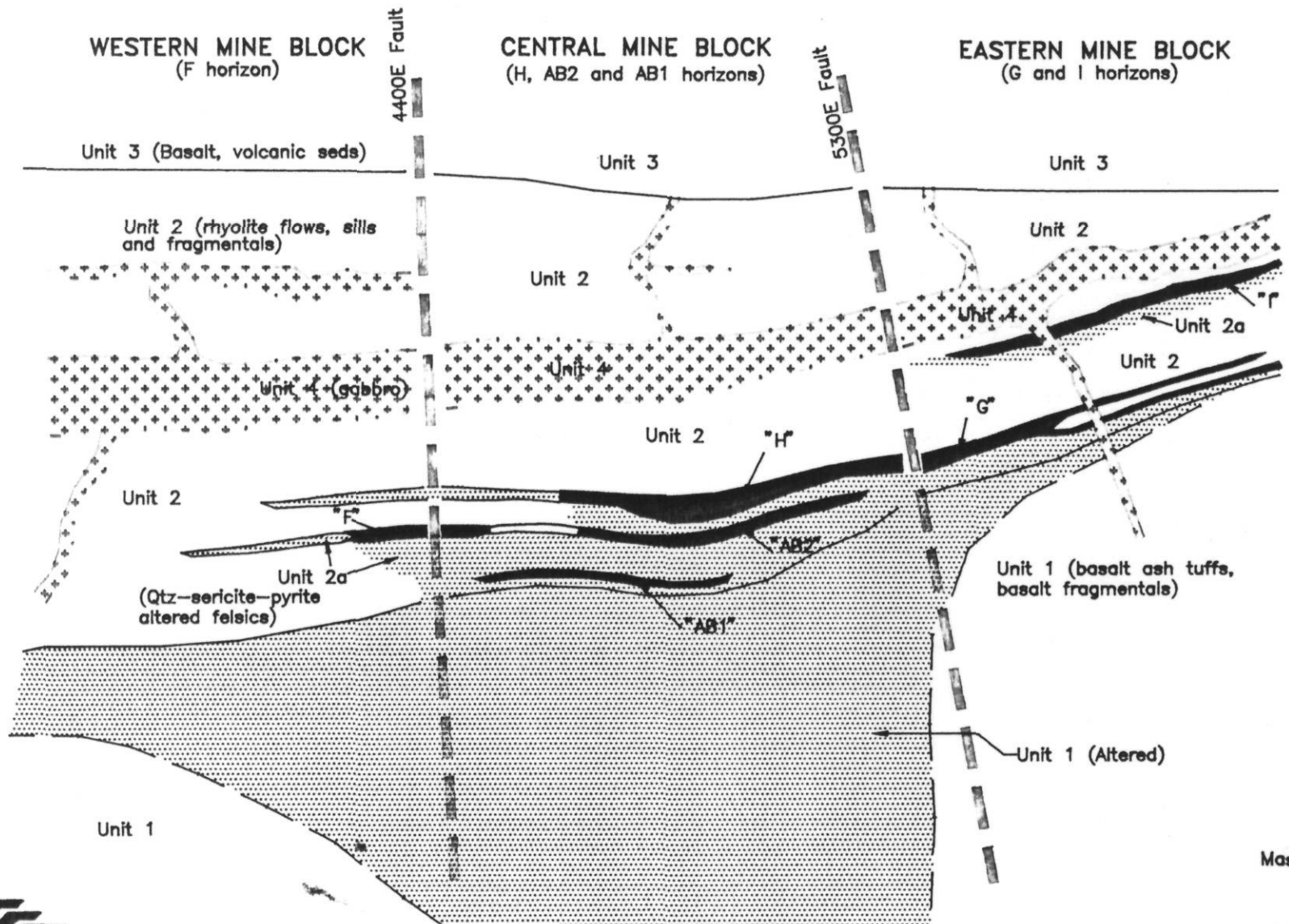


Figure 2-2: Tulsequah Chief Mine
Schematic Geologic Setting and Stratigraphy



The Lower division is dominated by Devonian to early Mississippian bimodal volcanic units including the Mine series felsic rocks (unit 2) hosting the Tulsequah Chief deposit. The Middle division, Mississippian to Pennsylvanian in age, is composed of pyroxene-bearing mafic breccias and agglomerates with locally extensive accumulations of mafic ash tuffs and volcanic sediments. The Pennsylvanian to Permian Upper division rocks consist of volcanic-derived clastic sediments and lesser mafic flows. Distinctive bioclastic rudite with intercalated chert, shales and sulphidic exhalite occurs near the top of the section.

2.2 Mine Geology

Drilling and surface mapping in the immediate vicinity of the Tulsequah Chief Mine has allowed finer subdivision of the Lower division of the Mount Eaton Block stratigraphy. Three series have been defined: Foot wall series (Unit 1), Mine series (Unit 2) and Hanging wall series (Unit 3). Foot wall and Hanging wall series are dominated by mafic volcanics and associated sediments. Mine series rocks consist primarily of dacite to rhyolite flows, flow breccias, sills and tuffs. All of the above units are cut by subvolcanic mafic intrusions which form thin sills and dykes which feed a large sill-like body that dilates Unit 2 felsic volcanic rocks. The schematic stratigraphy of the mine geology is shown in Figure 2-2.

2.3 Mineralization

The Tulsequah Chief property contains Kuroko-type volcanogenic massive sulphide (VMS) deposits which are believed to have precipitated on the sea floor adjacent to fumaroles associated with felsic submarine volcanism. Sulphide mineralization consists of thin-banded to massive pyrite with lesser amounts of sphalerite, chalcopyrite and galena. Important accessory minerals are tennantite-tetrahedrite and native gold. Gangue minerals chiefly consist of barite, silica and gypsum.

These VMS deposits occur as several *en echelon* thinly bedded and debris-flow facies lenses over a restricted stratigraphic interval near the base of the Unit 2 dacite to rhyolite flows, breccias and tuff. These sulphide lenses are termed the H, AB₁ and AB₂ horizons in the Central Mine Block, collectively termed the F zone in the West Mine Block and the G and I zones in the Eastern Mine Block. All of the above lenses, with the exception of the I horizon of the upper workings, comprise

the presently defined reserve at the Tulsequah Chief Mine. Amygdaloidal basalts of Unit 1 underlie the ore horizons. Hanging wall basalts and sediments of Unit 3 cap the Mine series felsic rocks.

Table 2-1

Stratigraphy of Tulsequah Chief Mine Geology

Unit	Designation	Lithological Description	Sulphide Zone
6	Tertiary Intrusions	Sloko rhyolite; quartz feldspar porphyry dyke	
5	Mount Stapler Sulte	Chlorite schist, phyllite and marble after metamorphosed mafic volcanics, sediments and limestone	
-----Tectonic boundary-----			
4	Mount Eaton Suite	Subvolcanic basalt dykes, gabbro sills and dykes	
3	Hangingwall Series	Basalt flows, dykes: basalt ash tuff, interflow tuff, tuffaceous argillite, siltstone, minor chert	
2	Mine Series	Feldspar-(quartz)-phyric dacite flows and sills, flow breccia, ash to lapilli tuff; aphanitic to pillowed basalt flows, interflow tuff, ash to lapilli tuff; hematite/albite/sericite altered flows and tuffs; sericite/silica/pyrite altered flows and tuffs; banded cherts, gypsum, barite, massive sulphides and debris flow variations	AB ₁ , AB ₂ , F, G, H, I
1	Footwall Series	Quartz amygdaloidal basalt flows, breccias and lapilli tuffs plus bleached silica/sericite/pyrite altered varieties; laminated tuffaceous sediments, minor chert	

2.4 Reserves

2.4.1 Geological Reserve

The 1993 geological reserve is nearly identical to that calculated in 1992. Inclined plan polygonal reserve estimates were prepared for the H-AB₂, AB₁ horizons and a longitudinal section-based polygonal reserve estimation method was used for the G zone. Probable reserves for these horizons are 4,090,213 tonnes, grading 1.53% copper, 1.24% lead, 6.67% zinc, 2.63 grams/tonne gold and 104.43 grams/tonne silver. Possible reserves are 3,692,055 tonnes grading 1.30% copper, 1.15% lead, 6.36% zinc, 2.42 grams/tonne gold and 104.94 grams/tonne silver. In addition to the reserves calculated in this report, the probable and possible reserves remaining above the 5000 Level from the 1950's mining operation total 707,616 tonnes grading 1.30% copper, 1.60% lead, 8.00% zinc, 2.40 grams/tonne gold and 116.5 grams/tonne silver. The total reserve for the Tulsequah Chief deposit (all horizons and classes of reserve) is 8,489,885 tonnes grading 1.41% copper, 1.23% lead, 6.65% zinc, 2.52 grams/tonne gold and 105.66 grams/tonne silver.

2.4.2 Mineable Reserve

A revised diluted mineable reserve has not been calculated with inclusion of 1993 results. However, given the negligible change in the geological reserves, it is felt that the diluted mineable reserve previously calculated in 1993 and outlined below remains valid.

The diluted mineable ore reserve is estimated to contain 6,932,500 tonnes grading 1.40% copper, 1.07% lead, 6.42% zinc, 2.40 grams/tonne gold, and 93.37 grams/tonne silver. In addition to this reserve, a lower grade extractable mineral inventory containing 785,000 diluted tonnes grading 0.42% copper, 0.61% lead, 2.69% zinc, 1.27 grams/tonne gold, and 59.75 grams/tonne silver exists. The low grade inventory forms part of the geological ore reserve, but has been excluded from the mineable reserve because, after factoring in dilution, NSR values for this material are unsatisfactory at current metal prices. The low grade inventory is located in H-AB₂, G, and AB₁ zones. An increase in metal prices could result in mining of parts of the low grade inventory and some sill pillars presently considered uneconomic.

3.0 PROPOSED MINING PLAN

Given the extent of previous production at the Tulsequah Chief Project and resultant understanding of conditions characterizing the property, mine planning is significantly advanced over most projects of this early stage of permitting. It will be further defined over the next several months as feasibility planning continues.

3.1 Production Rate and Mine Life

Mine production is estimated at 2,250 tonnes per day over a 9 year mine life assuming the ground conditions are sufficiently competent for long-hole, open-stope mining. Annual operating time is estimated to be 94% based on a 7 day operating week of 24-hour days.

Ore blocks will be mined using large diameter blasthole/VCR stoping (73%) and shrinkage stoping (27%) methods, depending on ore widths and hanging wall rock types.

Mill feed is to be derived as follows: 11% from development, 24% from shrinkage stoping, and 65% from blasthole stoping. Blasthole stopes are estimated to yield 1,000 tonnes per day each when in full production, and shrinkage stopes an average of 200 tonnes per day each over the stope life.

3.2 Mine Design

The main mine access is expected to be via a decline collared near a conceptual plant site on the east side of the Tulsequah River (near the present camp site) at an elevation of about 100 m above sea level on a gently sloping flank of Mount Eaton. A changehouse, mine dry, safety and mine rescue equipment, first aid station, and offices for mine supervision and technical staff will be located in a general services building adjacent to the mill/portal location.

Pre-production mine development between 0 m elevation (sea level) and -150 m elevation will be completed from the main decline prior to collaring of a production hoisting winze. Some rehabilitation, slashing, and extension of the existing 5400 level (+100 m elevation) and 5200 level (+50 m elevation) are required for development of the H and G zone orebodies. These levels will be

maintained as "tracked" access openings. The main access ramp from the future winze location to the mill will be sufficiently large to accommodate a conveyor system and allow the passage of trackless equipment.

Ore will be trucked up the ramp during the first two full years of operation. Most of the initial mine production will come from the H zone between the +100 m elevation and the -150 m elevation which will help to maximize head grade. Minor amounts of ore will come from the better G zone areas and H zone ore development below the -150 m level.

Although preproduction development ore is expected to provide two months of mill feed at start up, additional ore could be mined and trucked from the H zone below the -150 m elevation and from the G zone if the shaft sinking/mine deepening programs run beyond the presently designed time schedule (Figure 9-2).

The mine deepening program includes sinking and equipping of a timbered winze collared at the -75 m elevation. The winze is designed primarily as a three compartment hoisting facility with two cage-over-skip combinations. Crosscuts from the winze to the orebody at the -350, -500, -650 and -700 m elevations will be excavated. A crusher station will be established near the footwall of the orebody and conveyors at the -700 m elevation and in the main ramp between the winze and the mill will be installed. Drilling and reaming of three series of boreholes will be completed to provide ventilation return airways, ore and waste passes.

Following commissioning of the winze, underground crusher and conveyors, all ore will be fed through the central orepass system to the crusher, and underground trucking will be required only for haulage of mine development waste rock. The footwall ramp will be developed downwards as the main access corridor in advance of production mining.

Mine ventilating air will be forced into the main ramp, downcasting via the winze and footwall ramp, exhausting initially through a series of boreholes near the perimeter of the G zone, and through the abandoned Cominco winze and old upper mine workings.

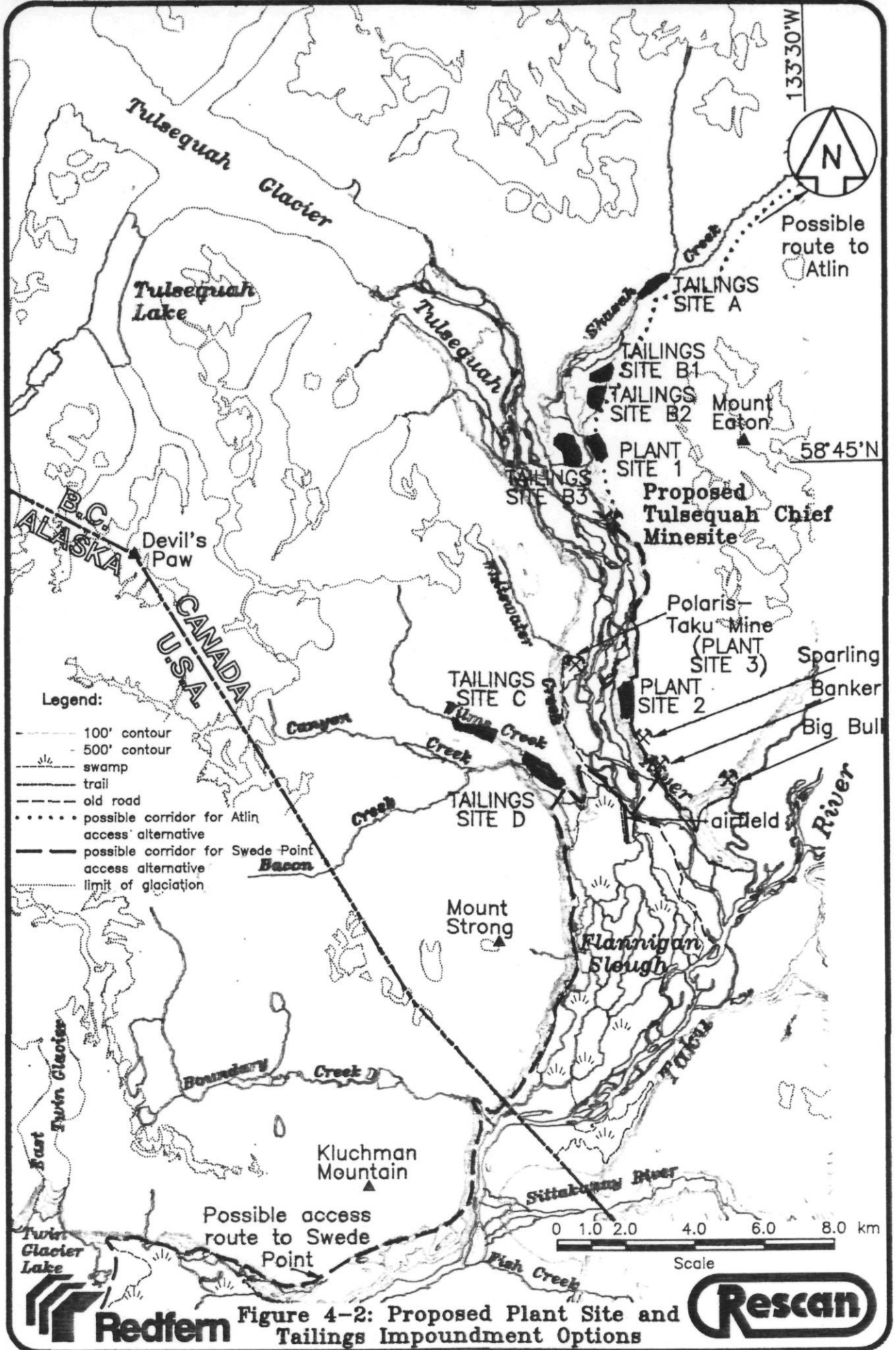
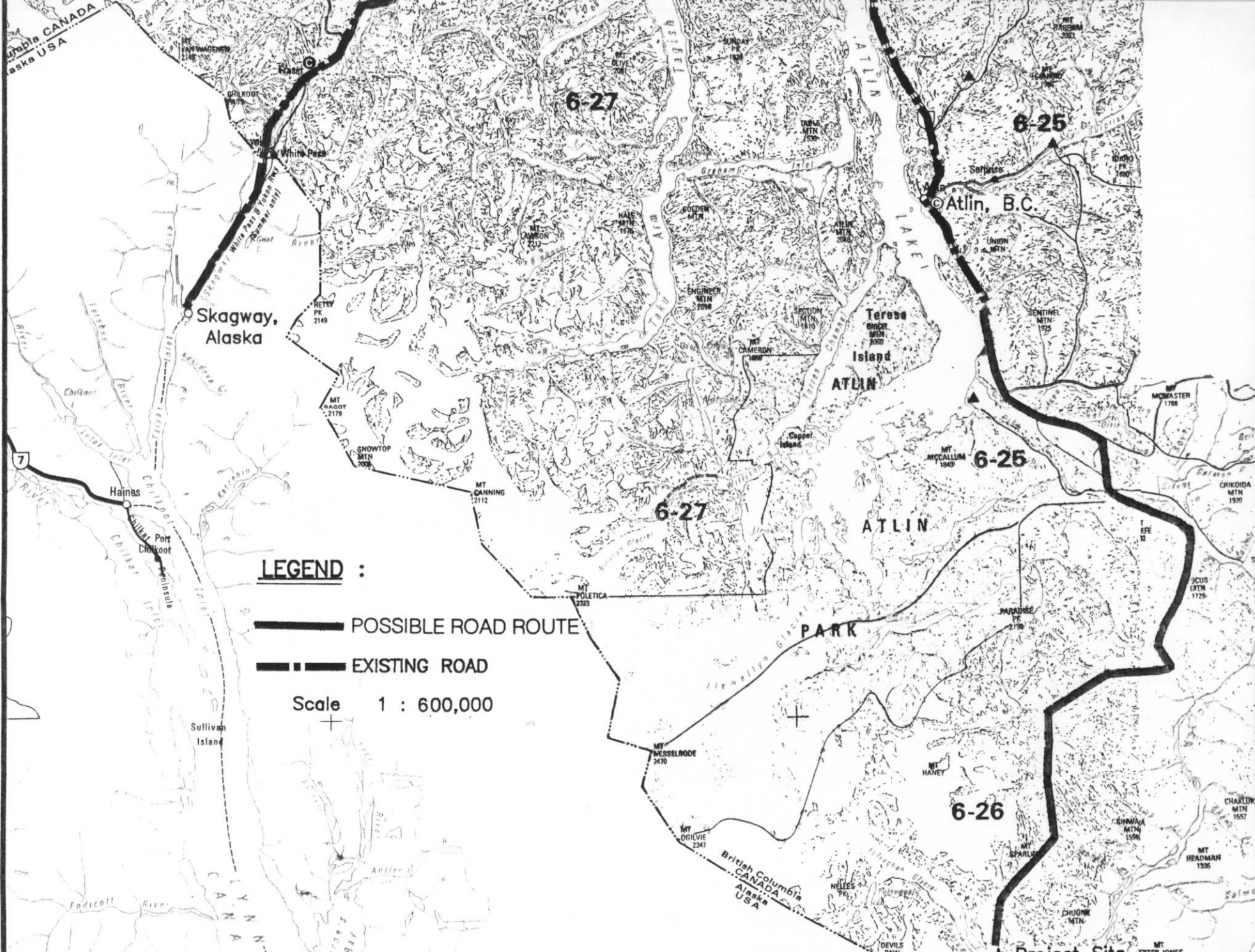


Figure 4-2: Proposed Plant Site and Tailings Impoundment Options





LEGEND :

—— POSSIBLE ROAD ROUTE

- - - - EXISTING ROAD

Scale 1 : 600,000



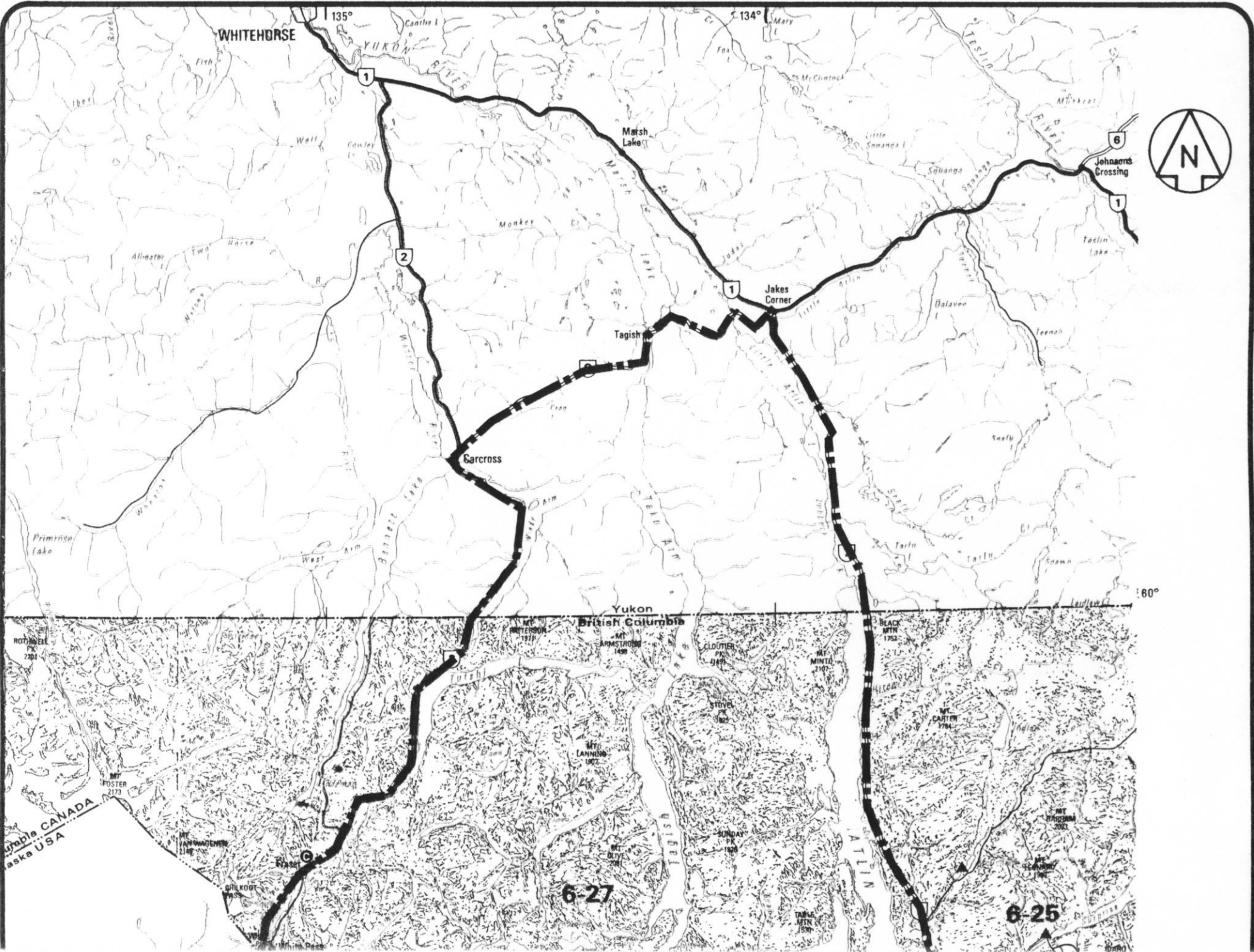
Figure 5-2: Property Access - Alternative B Road to Atlin, B.C.

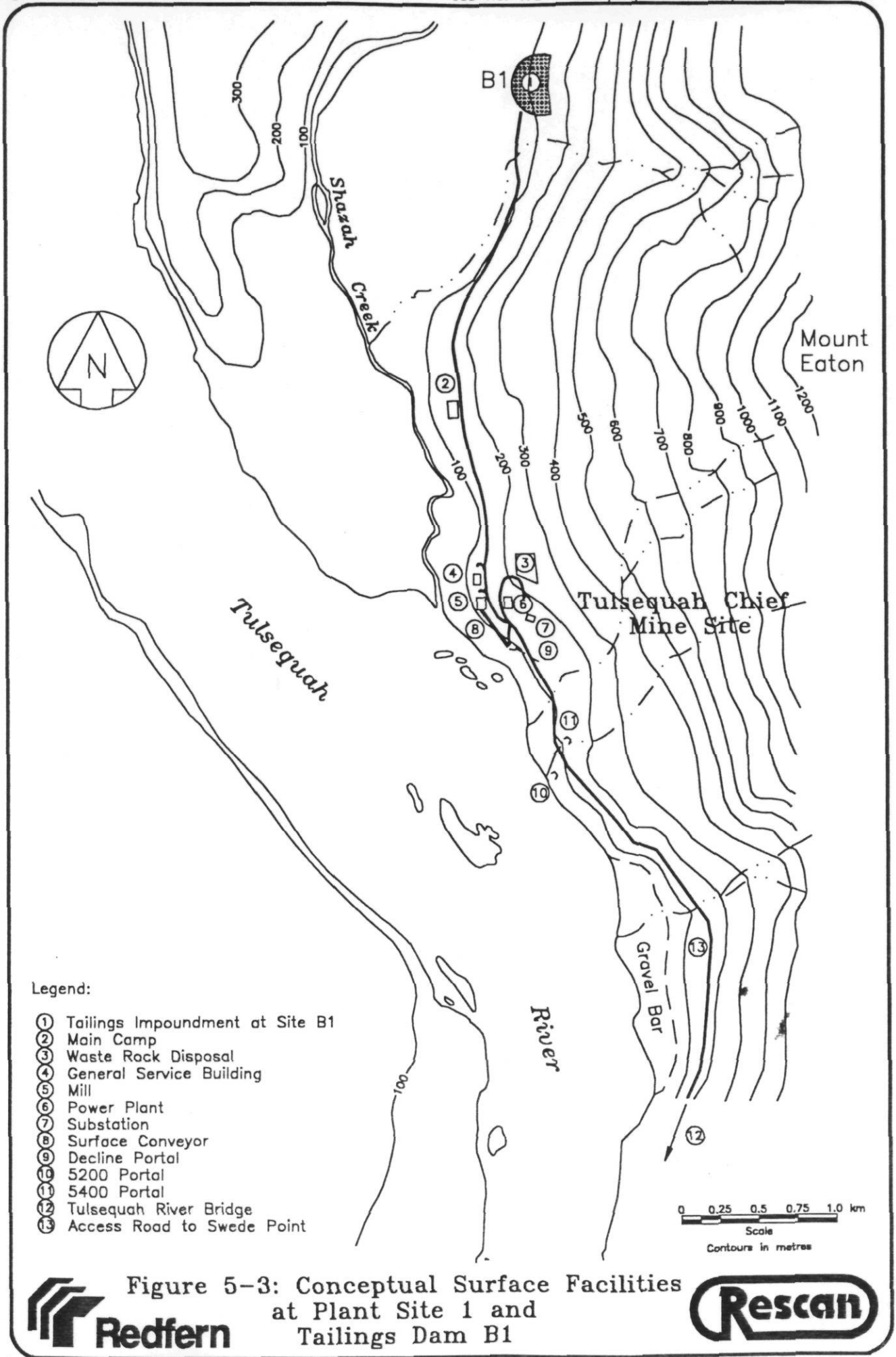


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Legend:

- ① Tailings Impoundment at Site B1
- ② Main Camp
- ③ Waste Rock Disposal
- ④ General Service Building
- ⑤ Mill
- ⑥ Power Plant
- ⑦ Substation
- ⑧ Surface Conveyor
- ⑨ Decline Portal
- ⑩ 5200 Portal
- ⑪ 5400 Portal
- ⑫ Tulsequah River Bridge
- ⑬ Access Road to Swede Point

0 0.25 0.5 0.75 1.0 km
 Scale
 Contours in metres



Figure 5-3: Conceptual Surface Facilities at Plant Site 1 and Tailings Dam B1

