

TULSEQUAH
CHIEF
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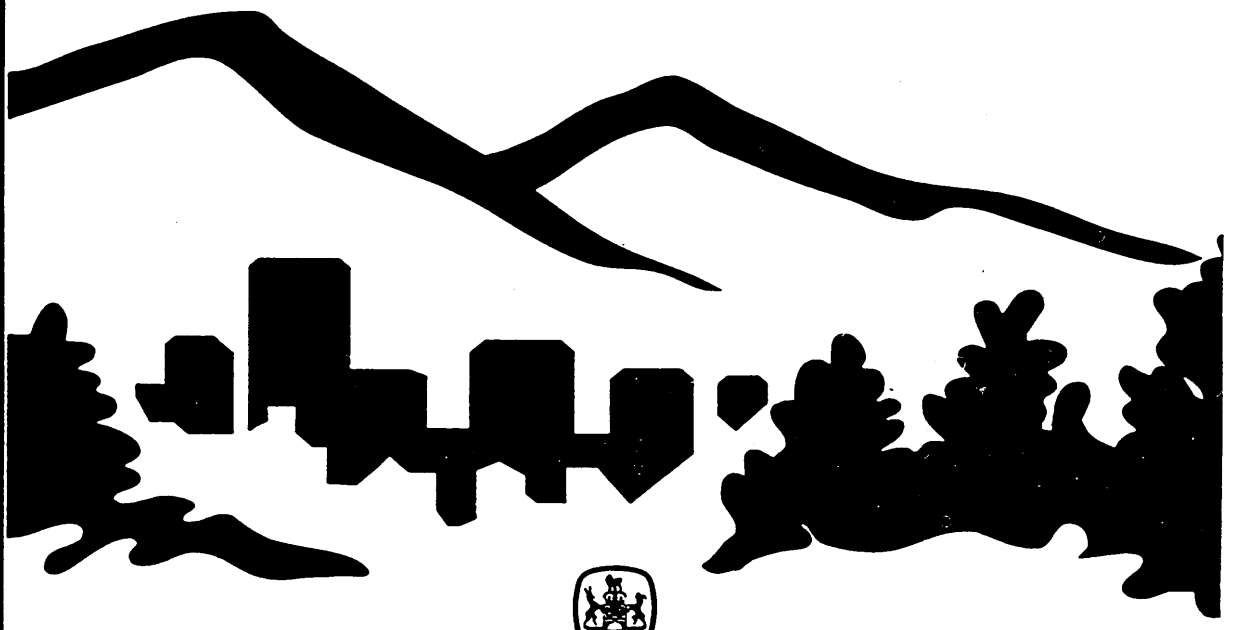
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**TULSEQUAH CHIEF
COPPER/LEAD/ZINC/GOLD/SILVER
PROJECT
REDFERN RESOURCES LTD.**

**DRAFT PROJECT REPORT
SPECIFICATIONS**

*Prepared by the Tulsequah Chief
Project Assessment Committee under the
Environmental Assessment Act, S.B.C. 1994*

**October 1995
ENVIRONMENTAL ASSESSMENT OFFICE**



Province of British Columbia
Environmental Assessment Office

ENVIRONMENTAL ASSESSMENT

PREFACE

Purpose of this Document

Redfern Resources Ltd. (Redfern) is seeking a Project Approval Certificate under the *Environmental Assessment Act* S.B.C. 1994, c. 35 (the Act) for its Tulsequah Chief copper/lead/ zinc/gold/silver project. A review of the company's Pre-Application submitted under the former Mine Development Assessment Process (MDAP) determined that Redfern must file a Project Report (a more detailed impact assessment submission) in support of its Application for the certificate. For consistency in this document, the Pre-Application documentation submitted under the former MDAP will be referred to as the Application under the Act.

In accordance with section 21(a) of the Act, the purpose of this document is to set out the Draft Project Report Specifications (or terms of reference) for the Project Report. This document was prepared by the Tulsequah Chief Project Committee based on input from British Columbia and Canadian federal agencies, First Nations, Alaska State and United States federal review agencies, and the public. More detailed comments from individual review participants are included in the appendices to this document.

The Proposed Tulsequah Chief Project

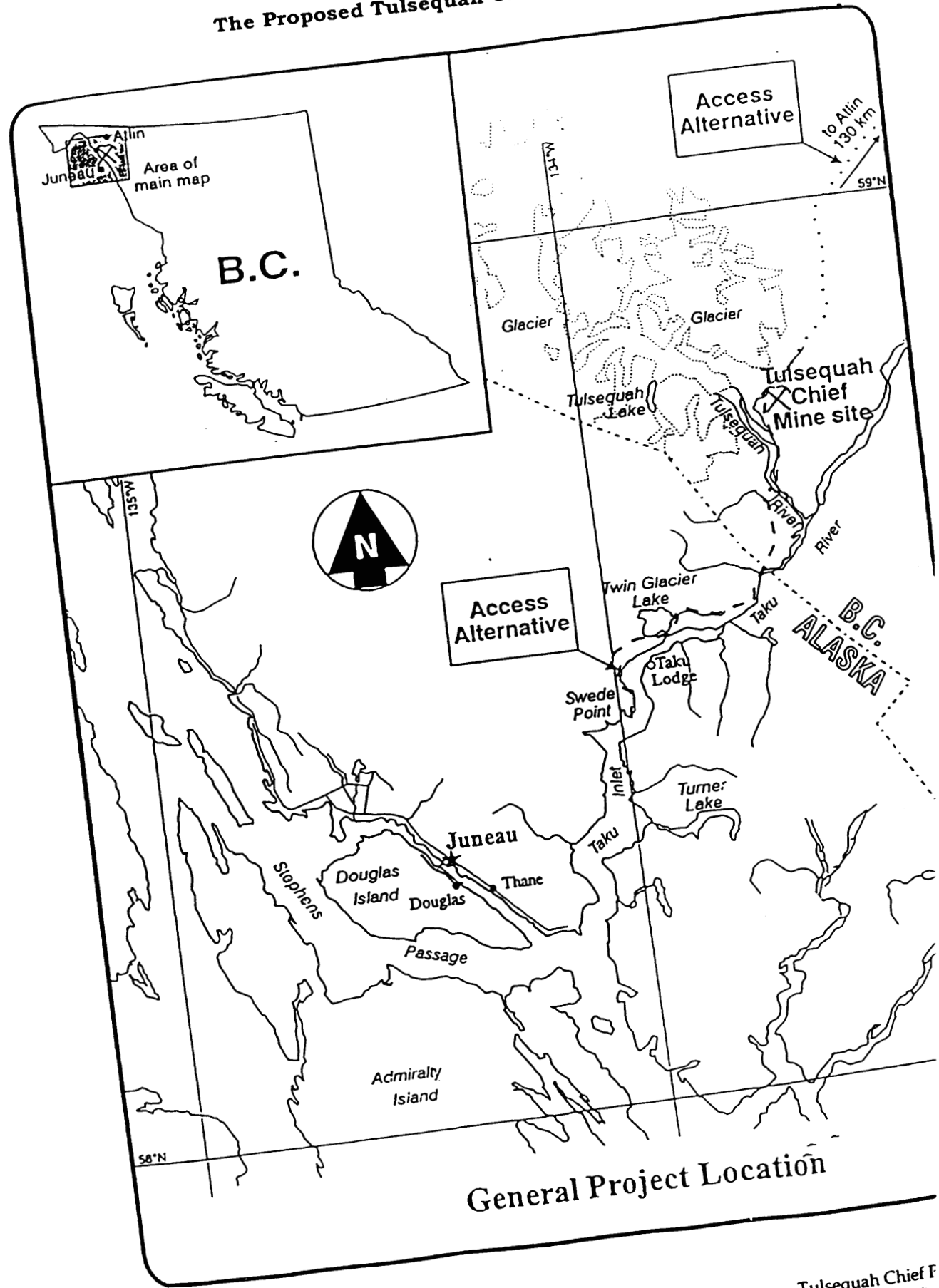
The Tulsequah Chief project, 100% owned by Redfern, is a former base and precious metal producing mine hosting copper, lead, zinc, gold and silver mineralization. The proposed project is located in northwest British Columbia in the Tulsequah River valley, approximately 30 km upstream of the Canada-U.S. border, 64 km northeast of Juneau and about 120 km southwest of Atlin, B.C. (Figure 1).

Redfern proposes to re-open the former underground mine and produce an average daily mill throughput of approximately 2250-3000 tonnes of ore. Redfern has estimated (July 1995) a geological reserve of 8.9 million tonnes, and a fully diluted mineable reserve of 7.2 million tonnes grading 1.24% copper, 1.18% lead, 6.32% zinc, 2.41 g/tonne gold, and 99.3 g/tonne silver. The proposed project, as described in five volumes (a two volume Application, an Application Addendum, and two reports discussing transportation options), indicates that potentially acid-generating waste material would be backfilled into the underground mine and the remaining waste material would be stored in a surface tailings pond facility.

As well, two preferred transportation options have been identified to provide access to the mine. Under consideration is a private industrial gravel road, approximately 120 km from the mine site through the Shazah Creek Valley, connecting with the existing Canadian road system near Atlin, B.C. This would allow concentrate to be hauled to existing port facilities in Skagway. As an alternative, a seasonal barge system has been proposed to transport supplies and concentrate down the Taku River to tidewater, and existing shipping facilities in Juneau.

The Tulsequah Chief project would require a total workforce of approximately 189 employees at the site (about 100 at any one time plus an additional 60 on a road access scenario, and 25 for the barge scenario).

Figure 1
The Proposed Tulsequah Chief Project



- If underwater disposal is considered, the proponent should test mine release under reducing conditions.
- The potential management units identified by the proponent need monitoring protocols during operation. Monitoring intensity should vary according to the uncertainty (higher in hanging wall, alteration zone), the precision of desired separation and the disposal site (construction material versus underwater disposal).
- The proponent should refer to Appendix 4 to review the critical features to be considered in the design of a treatment system.

INPUT OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION - APPENDIX 7

Summary

The Department of Conservation supports the proponent's efforts to identify and quantify the acid generating rock that will be mined. Accurate characterization of acid base potential of all rock sources is crucial. Every effort should be made to minimize acid generation from old and new mine operations, and the resulting water quality effects. The Department of Conservation encourages the proponent's plans to backfill acid generating tails into the mine. Back filling of all tailings should be maximized.

Mine Design

BACKGROUND

Given the extent of previous production at the project site, mine planning is significantly advanced over most projects at this early stage of review. In its Pre-Application, the proponent has indicated that the main mine access is expected to be via a decline collar near a conceptual plant site on the east side of the Tulsequah River at an elevation of about 100 m above sea level on a sloping flank of Mount Eaton. Pre-production mine development between 0 m elevation (sea level) and -150m 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 and 5200 level 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 conveyer system and allow the passage of trackless equipment.

The proponent has indicated that the 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. The deepening program includes sinking and equipping of a timbered winze collared at the -75 m elevation. A crusher station will be established near the footwall of the orebody and conveyors at the -700 elevation and in the main ramp between the winze and the mill will be installed.

A mine ventilation system will be operational through combining the old mine workings with some new developments.

INPUT OF MINISTRY OF ENVIRONMENT, LANDS AND PARKS - APPENDIX 4

Additional Information Required For A Project Report

- The proponent should include geological cross-sections with assays, and ore grade outlines. Ore reserve blocks should show net smelter return/tonne values with commodity prices listed.