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REDFERN RESOURCES LTD.

**The Tulsequah Chief-Big Bull Massive Sulphide Project,
British Columbia**

SUMMARY REPORT

January, 1992

SUMMARY

Redfern at present holds a 40% interest in the Tulsequah Chief property, and by agreement dated December 4, 1991, has the option to purchase Cominco's remaining 60% interest in the Tulsequah Chief and Cominco's 100% interest in the adjacent Big Bull property (also a former producer). On exercising the option, expected about mid-1992, Redfern will hold an unencumbered 100% interest in properties covering the known massive sulphide potential of the district.

Drill indicated reserves at the Tulsequah Chief are 8.6 million short tons grading 1.6% copper, 1.2% lead, 6.5% zinc, 0.08 oz/ton gold and 3.2 oz/ton silver with a current gross value of \$Can. 1.4 billion. The deposit is wide open to expansion and the upside potential is in the order of 12-15 million tons. The area potential is much larger and there are a number of targets on the property, such as the Big Bull deposit, which have not yet been explored in detail but have similar potential.

Preliminary mineralogical studies, integrated with previous milling experience, suggest good recoveries and concentrate grades. The steep dip and competent wall rocks imply excellent underground mining conditions.

A preliminary economic analysis suggests that a mining operation, based on a 9 million ton reserve, a production rate of 3,000 tons per day and average metal prices over the past two years, would be very profitable.

The property is ideally located in a broad open valley about 400 feet above sea level and close to the deep water port of Juneau, Alaska.

The Tulsequah Chief ranks as one of the more important undeveloped mineral reserves in Canada.

LOCATION AND ACCESS

The property is located in northwestern B.C., on the east side of the Tulsequah River valley at an elevation of 400 feet above sea level, (latitude 58° 43' and longitude 133° 35') approximately 60 miles south of Atlin, B.C. and 40 miles northeast of Juneau, Alaska. A 4,000 foot gravel air strip is located near the mine and is capable of handling aircraft up to the size of a Bristol freighter. Concentrates from a mining operation can be transported by barge along the Taku Inlet to the deep water port of Juneau, a distance of 55 miles as was done when the property was in production in the 1950's, or alternatively a road can be built to a deep water loading facility on the Taku Inlet. There are suitable locations for surface facilities including mill and tailings disposal in the immediate area.

A road along the Taku Inlet and Taku River, which will pass close to the property, is being considered by Alaska authorities. Ultimately the road would connect Juneau with Atlin, B.C.. In this context, funding for preliminary feasibility studies has been provided, environmental impact studies are underway and the banks of the Taku Inlet within Alaska have been reserved by legislation as a road corridor.

OWNERSHIP

Redfern now holds a 40% interest in the Tulsequah Chief property. By agreement dated December 4, 1991, the Company has the option to purchase Cominco's remaining 60% interest in the Tulsequah Chief property and its 100% interest in the adjoining Big Bull property which extends to the south of the Tulsequah Chief. Consideration for the purchase includes \$200,000 in cash payments, 1,100,000 shares and the assumption of certain environmental liabilities which, based on informed estimates, are not expected to exceed \$1,000,000. The property is 20 square miles in size and covers most of the known geological potential for massive sulphides in the district.

On exercising the option Redfern will have a free and clear 100% interest in these properties.

HISTORY

Cominco Limited operated the Tulsequah Chief and Big Bull mines through the period 1951 to 1957. Both mines closed in 1957 due to low metal prices.

Milling facilities were leased at the nearby Polaris-Taku gold mine which abandoned operations in 1950. The mill was re-tooled and produced at the rate of 500 tons per day. Mill concentrates were barged from the Taku river landing some 6 miles south of the mill site to the deep water port of Juneau, a distance of 55 miles. Past production from the Tulsequah Chief was 633,000 tons grading 1.8% copper, 1.3% lead, 6.7% zinc, 0.10 oz/ton gold and 3.2 oz/ton silver and from the Big Bull was 396,000 tons grading 1.2% copper, 1.9% lead, 7.3% zinc, 0.15 oz/ton gold and 4.5 oz/ton silver. When operations ceased, remaining in place reserves at the Tulsequah Chief totalled 780,000 tons of similar grade.

The area remained dormant from 1957 until June of 1987 when Redfern acquired an option from Cominco to earn a 40% interest in the Tulsequah Chief through the expenditure on exploration of \$3 million by December 31, 1990. Redfern completed its earn in by mid-1989 and the joint venture continued to develop the property on a 60% Cominco - 40% Redfern basis.

On December 4, 1991 the Company signed the option agreement to acquire Cominco's remaining interests in the area.

GEOLOGY

The Tulsequah Chief mineral deposit is a volcanogenic massive sulphide (VMS) containing copper, lead, zinc, gold and silver. Examples of VMS deposits include Aur-Louven's Louvicourt in Quebec, Falconbridge's Kidd Creek in Ontario and Westmin's Buttle Lake deposit in B.C. VMS deposits display good continuity in comparison to many deposit types and reserves can be reliably determined from wider spaced drill patterns.

The Tulsequah Chief reserves occur in two sheet-like lenses, termed the AB and H lenses, which are conformable or parallel with the enclosing volcanic strata. The H lens lies about 1-200 feet stratigraphically above the AB lens. Still higher in the volcanic stratigraphy, there is a third lens referred to as the I lens which at the deepest levels tested contains ore grade mineralization. The I lens could develop into an important ore horizon at depth. There is a fourth stratigraphic horizon above the I lens which displays geological characteristics that suggests proximity to mineralization.

The volcanic stratigraphy has been folded into a syncline or trough-like shape tilted so that it is inclined at an angle of 60° to the north.

Mineralization, from the highest level that was mined (6900 level) to the lowest level tested by drilling (3200 level) extends over a vertical range of 3,700 (the 5,000 mine level is sea level). The previous mining occurred above the 5400 level and the present in place reserves extend from the 5400 level to the 3200 level, over a vertical range of 2200 feet. The AB lens has been explored to the 3750 level, the H lens to the 3200 level and the I lens only to the 4000 level.

The true thickness of the ore grade mineralization ranges from 5 to 126 feet in the H lens and from 5 to 25 feet in the AB lens. The deepest intersection in the I lens has a true thickness of about 8 feet. The greatest thicknesses occur along the axis or closure of the syncline. Significantly two other fold closures occur immediately west of the drilled area and the expected thicker mineralization in these closures would significantly add to reserves.

The known mineralization is open upwards in the H lens, to depth in the AB, H and I lenses and on strike.

To the west, the favourable ore stratigraphy is offset 600 feet to the north by the 4400E fault and continues for at least 2000 feet further southwest. Limited drilling in the 1950's has confirmed the presence of massive sulphides in this sector. To the east, the ore stratigraphy is offset 300 feet to the south by the 5300E fault. Ore in the upper levels of the old mine (from the 5900 to the 6900 levels) on the east side of this fault is interpreted to be part of the mineral horizon. The eastward extension of the AB and H lenses on this side of the fault remains untested.

RESERVES

Drill indicated reserves, as calculated by an independent consultant, are 8.6 million tons grading 1.60% copper, 1.18% lead, 6.47% zinc, 0.08 oz/ton gold and 3.2 oz/ton silver. This reserve was calculated using a combination of vertical cross sections and polygons according to standard engineering practice.

The above reserve contains approximately 275,200,000 pounds of copper, 203,000,000 pounds of lead, 1,113,000,000 pounds of zinc, 688,000 ounces of gold and 27,500,000 ounces of silver.

METALLURGY

An independent mineralogical study integrated with the milling experience from previous operations in the 1950's suggests that the Tulsequah Chief mineralization should produce clean concentrates with average or better recoveries as compared to other similar deposits.

FUTURE EXPLORATION

The objectives of the next round of exploration will be to: 1) upgrade the existing drill indicated reserve to mineable reserve status by infill drilling, 2) continue extending the mineralization to depth through deep drilling, 3) extend drilling along the key mineral horizon to the east and west of the Tulsequah Chief and 4) begin exploration drilling at the Big Bull.

The infill drilling will provide more detailed reserve definition by reducing the spacing between drill holes to about 200 feet. It is estimated this will require 30 to 35 drill holes for a total of about 40,000 feet of drilling and will cost in the order of \$50 per foot for about \$2 million.

Deep drilling will be designed to extend the H lens to the 2500 level and the AB lens to about the 3000 mine level. Some of the existing 1990 and 1991 drill holes will be deepened to extend the AB lens and a further 10 new holes will be required to extend the H lens. About 35,000 feet of drilling would be required at a cost of about \$55 per foot for a total of about \$1.9 million.

Exploration costs to date are less than \$1 per ton of ore discovered.

ECONOMICS

An independent preliminary economic analysis was prepared based on a 9 million ton reserve with an 11% mining dilution to equal 10 million tons of mill throughput. Other assumptions used in this study were a capital cost of \$130 million, a production rate of 3,000 tons per day, operating costs of \$45 per ton and smelter payables based on Japanese rates. Prices used were the Canadian base metal producer prices as of early March 1991 which is about an average for the past two years. This study suggests that a reserve of this magnitude would support a very profitable mining operation.

Alternative approaches for surface infrastructure and mining methods could reduce capital costs very significantly.

POTENTIAL

The potential for increasing reserves substantially beyond the present 8.6 million tons is obvious.

The H lens is open to depth. By extending this lens from the 3200 level to the 2500 level, assuming the same dimensions or tons per vertical foot as in the lower levels, would add about 2 to 3 million tons to reserves. The AB lens is also open to depth and if extended from the 3750 level to the 2500 level, again assuming the same tons/vertical ft., would add a further 1-3 million tons. The H-AB lens is open upward above the 5400 level and there could be an additional 2-4 million tons or more of reserves in this sector. The I lens is also open to depth, and if it develops into an important horizon at depth as expected, it would add significantly to reserves.

Most of the mineralization is contained in the thickened axis of the syncline. On strike immediately west of the syncline there are two additional fold axes, an anticline and syncline, which remain untested. These fold axes have been identified and mapped on the 5400 and 5200 levels and continue to depth. Although difficult to quantify, this additional reserve potential could be substantial.

West of the 4400 E fault the mine stratigraphy continues for at least two thousand feet. Several holes drilled on the west side of this fault in the 1950's confirmed that ore grade massive sulphides exist there. Alteration and zinc mineralization observed on surface in this area further confirms the potential on this west side of the fault. Similarly the mine stratigraphy continues on the east side of another fault offset (the 5300E fault) and it is interpreted that the AB and H horizons in this area are untested.

Reserves (present and potential) based on relatively conservative extrapolations beyond the present drilling is in the order of 12-15 million tons. The area potential is much larger as there are a number of outstanding targets on the property, such as the Big Bull property, which have not yet been explored. There is a high probability of further discoveries as VMS deposits generally occur in clusters.

ENVIRONMENTAL

Permitting for production is expected to be relatively straight-forward. From the 1930's to the 1950's, there were three producing mines in the Tulsequah river valley; the Tulsequah Chief and Big Bull base metal deposits, and the Polaris Taku gold deposit. Because the Tulsequah is a long established mining area, the permitting process for a new mine is expected to be much easier than it would be if the area had not had a history of mining activity.

Tulsequah Chief is a compact high grade reserve as opposed to a very large low-grade open pit deposit type. It can be mined entirely by underground methods with minimal surface environmental impact. The reserves are almost entirely deeper than the valley bottom and when the deposit is ultimately mined out, the mine workings can be allowed to backflood thereby completely eliminating any possibility of acid mine drainage.

There is a relatively small cleanup required at the immediate minesite as result of the mining activities in the 1950's. Based on expert opinion this cleanup is not expected to exceed \$ 1 million, and can be carried out over a period of years simultaneously with the exploration-development work. It can be accomplished relatively simply using standard engineering techniques.

Ore mined from Tulsequah Chief and Big Bull during the 1950's was milled at the Polaris-Taku mill site across the Tulsequah river thus there are no mill tailings located on properties in which Redfern has an interest.

CONCLUSION

The Tulsequah Chief is geologically similar to the polymetallic deposits of Aur-Louvem in Quebec and Westmin's Buttle Lake in B.C. and ranks as one of the more important undeveloped mineral reserves in Canada. It also represents one of the most outstanding new mineral discoveries in Canada in the last decade.

The substantial drill indicated reserve - high grades - large upside potential - favourable metallurgy, geometry and underground mining conditions and location all augur well for the ultimate development of this reserve.