

82F/14W

82F/NW-168

002436

GEOLOGICAL REPORT

on the

REPUBLIC PROPERTY

of

TANDEM RESOURCES LTD

SLOCAN MINING DIVISION

PROPERTY FILE

82FNW168 -07

February 28, 1972
Vancouver, B. C.

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Consulting Geologist

T. R. TOUGH & ASSOCIATES LTD.

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<u>Map Name</u>	<u>Scale</u>
LOCATION MAP	1" = 136 miles
CLAIM MAP	1" = 300' in pocket

SUMMARY

The Republic group of claims, owned by Tandem Resources Ltd, consists of six crown granted and 14 located mineral claims located approximately three miles by gravelled road northeasterly from Slocan City in the Nelson Mining Division in southeastern British Columbia.

The topography is steep but not precipitous with elevations on the property ranging from 3500 to 4500 feet. There is sufficient water for all phases of exploration. Finished timber is available from local sawmills and hydro-electric power would be available if future requirements warrant. Diesel electric power will be necessary for initial phases.

Year-round logging and mining operations are carried on in the general area which experiences moderate winters with a fairly heavy snowfall at high elevations. Summers are pleasant with moderate rainfall.

Railroad facilities and a good network of highways will provide a means for receiving supplies from local or distant supply centres in British Columbia, Alberta or Washington, U. S. A.

It is approximately 50 miles by road or rail to the smelter at Trail, B. C.

Previous recorded production from the property between 1902 and 1952 was 242 tons which yielded 13,299 oz of silver, 107 oz. of gold, 268 pounds of lead, and 171 pounds of zinc. The production came from the Republic vein which averages about two feet wide and carries pyrite, argentite, native silver

and gold, and little galena and sphalerite as is typical of the Slocan "dry ores". The veins cut a coarse grained grey porphyritic granite of the Nelson batholith. Wallrock alteration products are quartz, sericite, chlorite, carbonate, pyrite, k-feldspar and hematite.

Veins in the Slocan camp exhibit both vertical and lateral zoning mineralogically.

Ore shoots within the Republic group are erratically distributed and are elongated down the dip. The ore shoots have been partially developed by inclined shafts and drifts and development muck shipped to the Trail smelter.

CONCLUSIONS

Since the deposits on the Republic property have not been recently assessed in the light of new technology and metal prices, it therefore warrants an exploration program to fully assess the potential of the property.

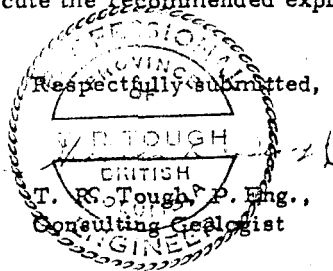
The recent development of the Silmonac Mine and the proposed re-working of the nearby Ottawa Silver Mine, further justifies a detailed exploration programme.

RECOMMENDATIONS

It is recommended that programmes of surface and underground geological mapping and sampling, underground rehabilitation, trenching and road building, limited drifting or slashing to help sample and delineate existing ore shoots be carried out.

It is further recommended that Tandem Resources Ltd allocate the sum of \$56,250.00 to implement and execute the recommended exploration and development programmes.

Respectfully submitted,



February 28, 1972
Vancouver, B. C.

INTRODUCTION

The information for the following report is based upon a personal examination of the crown granted claims, included in the property described herein, in June 1968, from B. C. Minister of Mines Annual Reports, from a recently completed Master's Thesis by John F. W. Orr dated May 1971 and entitled "Mineralogy and Computer-Orientated Study of Mineral Deposits in Slocan City Camp, Nelson Mining Division, British Columbia, and from G. S. C. Memoir 308, 184.

PROPERTY

The property consists of six crown granted claims and 14 located mineral claims. They are as follows:

<u>Crown Grant</u>	<u>Lot Number</u>	<u>Expiry Date</u>
Sunlight Fraction	L5319	July 2, 1972
Erin	L1530	July 2, 1972
Erin Fraction	L5236	July 2, 1972
Republic No. 2	L5498	July 2, 1972
Bell No. 2	L5500	July 2, 1972
American Eagle	L5499	July 2, 1972

<u>Claim Name</u>	<u>Record No.</u>	<u>Expiry Date</u>
Ross # 1 - 14 incl.	16699-16712 incl.	February 1, 1973

OWNERSHIP

The claims are owned outright by Tandem Resources Ltd.

LOCATION (49° - 117° NE)

The property is located approximately three miles northeasterly of Slocan City, southeastern British Columbia in the Nelson Mining Division. The general Slocan area is accessible from Vancouver by road and air some 500 miles east.

ACCESS

A gravelled road, some three miles long, leads east and north from Slocan City and passes through the crown granted claims just west of the headwaters of Climax Creek, a tributary of Springer Creek.

TOPOGRAPHY

The topography is steep but not precipitous with elevations on the property ranging between 3500 and 4500 feet.

WATER, TIMBER AND POWER

Sufficient water is available for all phases of exploration and development. Lumber is available from sawmills in the area and the claims have good stands of timber on them. Hydroelectric power is available from the Slocan City area but diesel electric power will be necessary for initial phases.

TRANSPORTATION AND CLIMATE

The Canadian Pacific Railway supplies rail services from Slocan City. Paved highways provide excellent trucking routes to several major centres. Both rail and highway provide means of transporting ore or concentrates to the smelter at Trail, B. C. a distance of 50 miles from Slocan City.

Because of the influence of Slocan Lake the immediate area does not experience extreme winter temperatures. Heavy snow is common at high elevations and the winter months are long. Summer temperatures are warm with moderate precipitation.

SUPPLIES

Most supplies should be available in Nelson, Trail or Castlegar. Good daily express services to these communities will enable locally unobtainable goods to be brought in from Vancouver or other large supply centres.

HISTORY

The claims were first staked in 1895 and worked intermittently over the years, generally by lessees.

Recorded production from 1902 to 1952 inclusive was 242 tons which yielded 13,299 ounces of silver, 107 ounces of gold, 268 pounds of lead and 171 pounds of zinc.

There are no records of any further shipments made.

GENERAL GEOLOGY

A detailed description of the geology of the Nelson Batholith has been published in Memoir 308 of the Geological Survey of Canada by H. W. Little (1960). Essentially, the Nelson Batholith is comprised of a porphyritic granite with a lesser predominance of quartz diorite, quartz monzonite, diorite, monzonite, and syenite. The porphyritic granite is coarse-grained, grey, and has phenocrysts of pink to white alkali feldspar which average approximately two inches in length. The batholith has been determined to be of Cretaceous age.

Numerous acidic, basic and lamprophyre dykes cut the Nelson batholith. The latter type appear to be structurally or genetically related to some of the mineral deposits in the Slocan area (Cairnes, 1948, p. 203).

TYPES OF LODE DEPOSITS

The following list describes, mineralogically, the various types of deposits common within the Nelson batholith.

1. Lead-silver, with or without some zinc and minor gold.
2. Silver-lead-zinc, with or without minor gold and cadmium.

3. Silver-gold, with or without some lead and minor zinc.
4. Gold-silver, with or without some lead and zinc.
5. Copper-silver-gold
6. Gold-copper-silver
7. Zinc-lead-silver.

In the immediate area of Slocan the predominant type of deposit is Silver-gold, with or without some lead and minor zinc. They occur as cross-cutting quartz sulphide fissure fillings with little wallrock alteration and limited replacement. Wallrock alteration consists of silicification, sericitization, chloritization, carbonatization, pyritization and feldspathization.

In the northern portion of the Slocan camp the deposits are classed as "wet ores", containing massive galena and sphalerite in a gangue of quartz and siderite. In the area around Slocan City and Springer Creek the deposits are classed as "dry ores"; the veins contain abundant quartz gangue with a low sulphide content of pyrite, galena, sphalerite, tetrahedrite, chalcopyrite, native gold, argentite, native silver, ruby silver, stephanite and others. "Dry ores", have produced relatively small tonnages of high grade ore, (up to 20,000 tons) whereas "wet ores" produce in the 10,000 to 100,000 tons range.

The Slocan City area has a definite mineralogical zoning both vertically and laterally. (J. F. W. Orr, Master's Thesis, U. B. C. 1971).

The attitudes of the many veins occurring in the Slocan City area suggests a sub-radial pattern emanating from just north of Slocan City near the Republic property. The strikes of the veins vary between 020° and 100° with varying dips to the northwest, northeast and southwest.

LOCAL GEOLOGY

The Republic property is underlain by coarse-grained porphyritic Nelson granite which is locally strongly sheared and intruded by felsic and mafic dykes.

MINERALIZATION

There are several veins occurring on the property but only two have received concentrated development over the years. The Republic vein has been developed by an inclined shaft, collared at an elevation of 4,375 feet. The incline has been sunk to a depth of some 60 feet on the vein which is approximately 2 to 3 feet wide. The vein strikes 085° and dips 30° to the north and is offset slightly by step-faults striking 025° to 045° with dips from 65° to 85° NW. Short irregular drifts and slopes have been driven from the incline.

Another shaft, some 800 feet west of the above shaft, has been sunk on what appears to be the extension of the Republic vein. The vein is 2 feet wide, strikes 050° and dips 35° NW. The shaft is presently full of water. Further west 2 levels have been driven to crosscut the vein but neither one did before the work was stopped.

The Bell # 2 adit, west of the Republic adits, follows a discontinuous vein which strikes 020° and dips 45° SE. Beyond 60 feet from the portal the vein is complexly faulted.

The veins in the eastern portion of the property generally strike east and dip gently north whereas the west veins strike northeasterly with a flat dip to the northwest.

Ore shoots within the veins are erratically distributed and are elongated down the dip. The quartz veins contain pyrite, argentite, native silver, native gold and little galena and sphalerite.

The crown granted mineral claims have numerous showings and surface workings and a few claims which were previously worked on and surveyed are now covered by some of the Ross claims. The Slocan Bob claim is covered by Ross # 9 and Ross # 11 claims. The Club claim, which has two veins reported to be at right angles to one another, may be covered by Ross # 10 and Ross # 12 claims. The veins are reported to be 3 feet wide and 6 to 8 feet wide.

EXPLORATION AND DEVELOPMENT PROGRAMMES

Detailed geological mapping will be required to locate all outcrops, veins, trenches shafts and adits with extreme care given to elevation control to enable projections of veins to be made as well as aiding in locating possible faults.

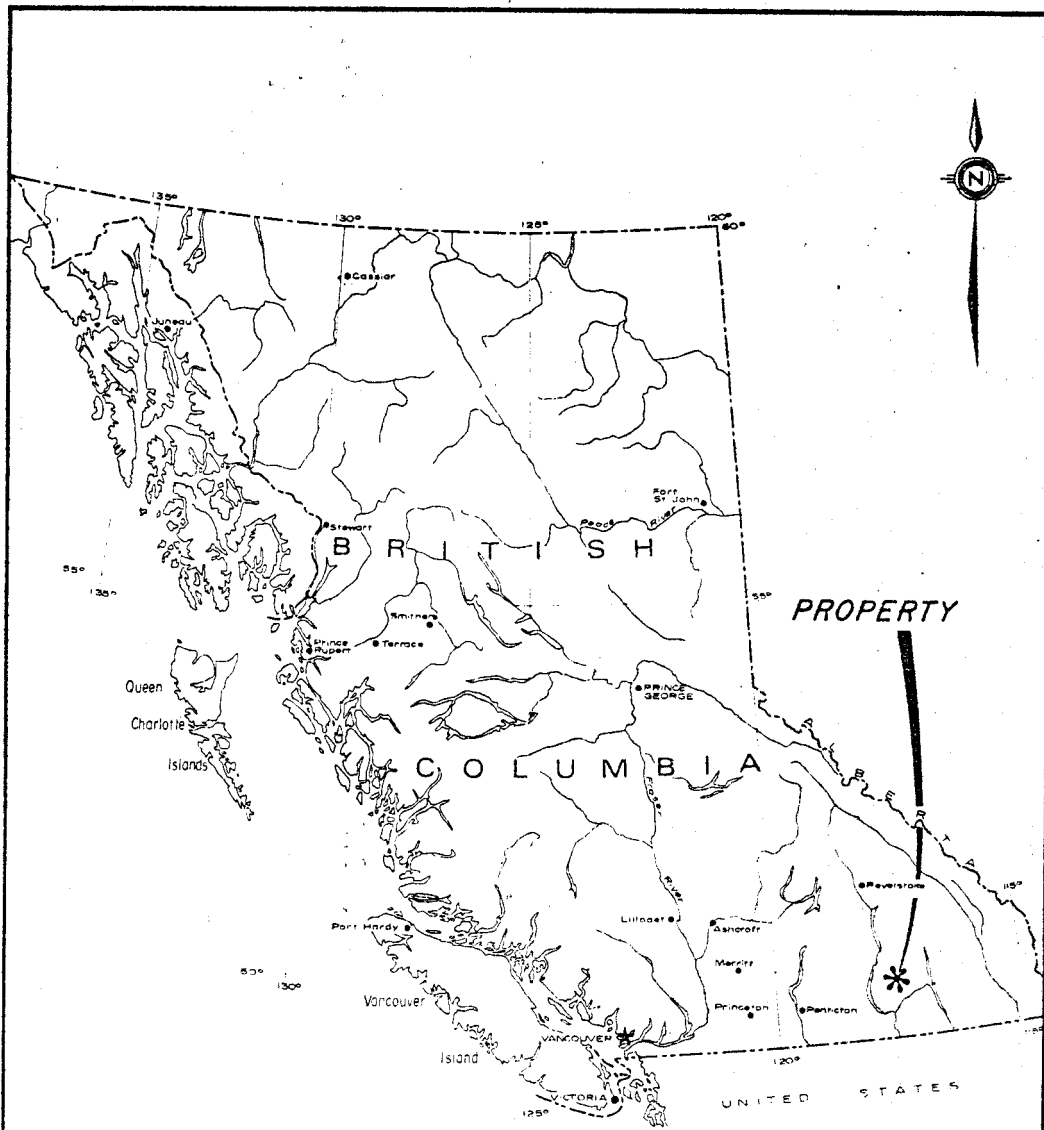
The underground workings will have to be rehabilitated and the walls washed down to facilitate geological mapping, surveying and sampling.

Trenching and road building will be required to clean out old trenches and any newly-discovered showings. AD-6 bulldozer should suffice for such work. All such trenches will have to be thoroughly sampled and mapped.

An allowance should be made for approximately 150 feet of drifting which may be required to facilitate the delineation of existing ore shoots and bulk sampling.

ESTIMATE OF COSTS OF EXPLORATION AND DEVELOPMENT PROGRAMME

Linecutting (20 line miles @ \$150/line mile)	\$ 3,000.00
Geological Mapping (Surface)	2,000.00
Underground rehabilitation (timbering of caved portals, washing of walls, etc.)	10,000.00
Dewatering of Republic Incline Shaft	2,000.00
Underground Mapping and Surveying	5,000.00
Surface and Underground Sampling and Assaying	7,000.00
Drifting and Slashing (150 feet @ \$75/foot)	11,250.00
Trenching and Road Building (D6 Bulldozer 30 days @ \$120.00/day)	3,600.00
Vehicle Rentals (2-4 x 4 pickup trucks \$600/month for 4 months)	2,400.00
Camp and Maintenance (5 months - 5 men)	5,000.00
Contingencies	5,000.00
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	\$56,250.00



SCALE 1" = 136 M.

T. R. TOUGH & ASSOCIATES LTD.

TANDEM RESOURCES LTD.

LOCATION MAP

SLOCAN BC.

DRAWN: ALTAIR	CHECKED:	DATE: FEB 1972
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