

Tom Schwab

Jan. 1988

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MACKTUSH

A PROSPECTUS FOR
SYMC RESOURCES LTD.
MACKTUSH CREEK PROPERTY, PORT ALBERNI, B.C.

Prepared for:
B.C. MINE DEVELOPMENT STEERING COMMITTEE

Prepared by:
SYMC RESOURCES LTD.
Vancouver, B.C.

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PROJECTED OPERATING MANPOWER DISTRIBUTION

REFERENCES

FACT SHEET

Mineral Reserves

Minerals	Gold Silver Copper
Reserves	152,000 Tons
Average Grade of Ore	AU - 0.54 oz/t
	AG - 2.29 oz/t
	CU - .75%

Potential for Additional

Reserves - Excellent

Mining

Mine Operation	- Open Pit
Production	- 100 tons/day milled
Process Plant	- Conventional
Mine Life	- 5 Years +
Work Period	- Mining 5 days/week
	- Hauling 6 days/week
	- Milling 7 days/week

Transportation

Road	- 12 miles (21 km) south of Port Alberni on existing all weather logging roads.
Power	- New 25 KV power line, 10 miles long.

Fact Sheet (cont.)

Page 2.

Work Force

Operational	- 22
Construction	- 30
Housing	- Port Alberni/Qualicum Beach
On Site Accommodation	- Not required

Schedule

Construction	- Summer 1988
Pre Production	- September 1988
Operation	- December 1988

EXECUTIVE SUMMARY

This Prospectus provides information with respect to an aboveground mining operation which is proposed for the Macktush property located 12 miles south of Port Alberni on Vancouver Island. The property is being developed by SYMC Resources Ltd.

Since 1981, SYMC has conducted continuous exploration on the property and has outlined to date ore reserves of approximately 152,000 tons grading, .54 oz/ton gold, 2.29 oz/ton silver and .75% copper. Mineralization containing gold, silver, and copper has been discovered in the northwest portion of the Macktush property. Mineralization consists of strataform massive to disseminated sulphides made up of pyrite, chalcopyrite, free gold and tetrahedrite ^{skarn} containing silver. However, the predominant form of mineralization contains about 25% sulphides in a gangue of quartz and carbonate. The mineralized zones are conformable to the volcanic stratigraphy and vary in width from 6 to 4 ft. in three closely associated veins. Mining will be by aboveground methods. The initial daily production rate will be 100 tons per day on a 365 day per year basis. Using approximately 30 ft. deep x 90 ft. long x 20 ft. wide steps in the side hill, it is hoped to keep surface disturbance to a minimum. Overburden will be stockpiled for future reclamation and reforestation. The most important surface features will be the mill and the tailings impoundment area. The exact locations for these

facilities have yet to be finalized. No metallurgical work has been carried out to date. However, it should be noted that preliminary findings show the ore contains only trace arsenic and the gold is essentially free gold allowing simple milling process with minimal environmental risk from tailings.

This Prospectus addresses the socio-economic and environmental issues associated with this proposed development. There is considerable environmental information available for the Port Alberni area from government and private sources. However, this information is not specific to the mine site or in sufficient detail to meet the requirements of a Stage I Report. The salient information highlighted in this Prospectus forms the basis for determining the proposed field studies that will be completed during the Stage I studies. The Stage I studies are designed to provide site-specific information to a level of detail to satisfy the Stage I Report requirements. They are designed recognizing the need to fill data gaps revealed by the compilation of existing regional information. These studies are important in the determination of the mitigative measures necessary to minimize environmental impacts and to ensure project approval-in-principle.

With respect to the socio-economic data base, it is important to note that the Macktush site is within the Clayquot Regional District and that community profiles have been prepared that will serve as a basis for developing a project related socio-economic evaluation during the Stage I study. Information currently available addresses subjects such as unemployment, labour force skills, community services and facilities, availability of goods and services, etc. The following points will be taken into consideration with respect to the Macktush project:

1. A new townsite to serve the operating mine will not be required.
2. City of Port Alberni valley and district will be affected, either positively or negatively, as a result of this proposed development.
3. Noting the location of the proposed mine development and that other industrial activities have taken place and are taking place in the area of the proposed mine, the required infrastructural changes will be minor in nature.

SYMC are committed to providing a public participation and information program to help ensure that government approval-in-principle is not granted in isolation of public acceptance of the project. An "Open House" program will be implemented and will provide an opportunity for interested people to obtain information about the project and to input their views concerning the design of the proposed project co-ordinated through local councils.

1.0 INTRODUCTION

1.1 GENERAL

Exploration in the project area dates back to the late 1800s when massive sulphides were discovered on Mount Sicker. Between 1898 and 1909, these deposits produced 253,000 tons of ore grading 0.14 oz/ton gold, 2.92 oz/ton silver, and 3.77% copper. Zinc and lead were also present but were not recovered. The mines closed due to dwindling reserves, low copper prices, and a smelter penalty for the high zinc content. Several unsuccessful attempts have since been made to reactivate these mines.

The SYMC property was staked by local prospectors in April 1981 and optioned to SYMC Resources in March 1987. Since that time, SYMC has carried out a more detailed exploration program over much of the property.

This Prospectus has been prepared by SYMC as a first step in obtaining approval for the development of a mining operation at the Macktush site. SYMC exploration programs have delineated sufficient reserves to warrant the initiation of detailed environmental studies leading to the preparation and submission of a Stage I Report.

1.2 LOCATION AND ACCESS

The Macktush property is located approximately 12 miles south of Port Alberni on the west side of the Port Alberni inlet canal. Access to the property is via an all weather two lane gravel road from the Island Highway near Port Alberni. This road was developed initially as a logging road and provides good road access to the Macktush property. The Macktush property is within easy driving distance of a major highway (the Trans Canada Highway), an airport (the Nanaimo Cassidy Airport), and the communities of Port Alberni, Qualicum Beach and Nanaimo.

2.0 THE MACKTUSH PROPERTY

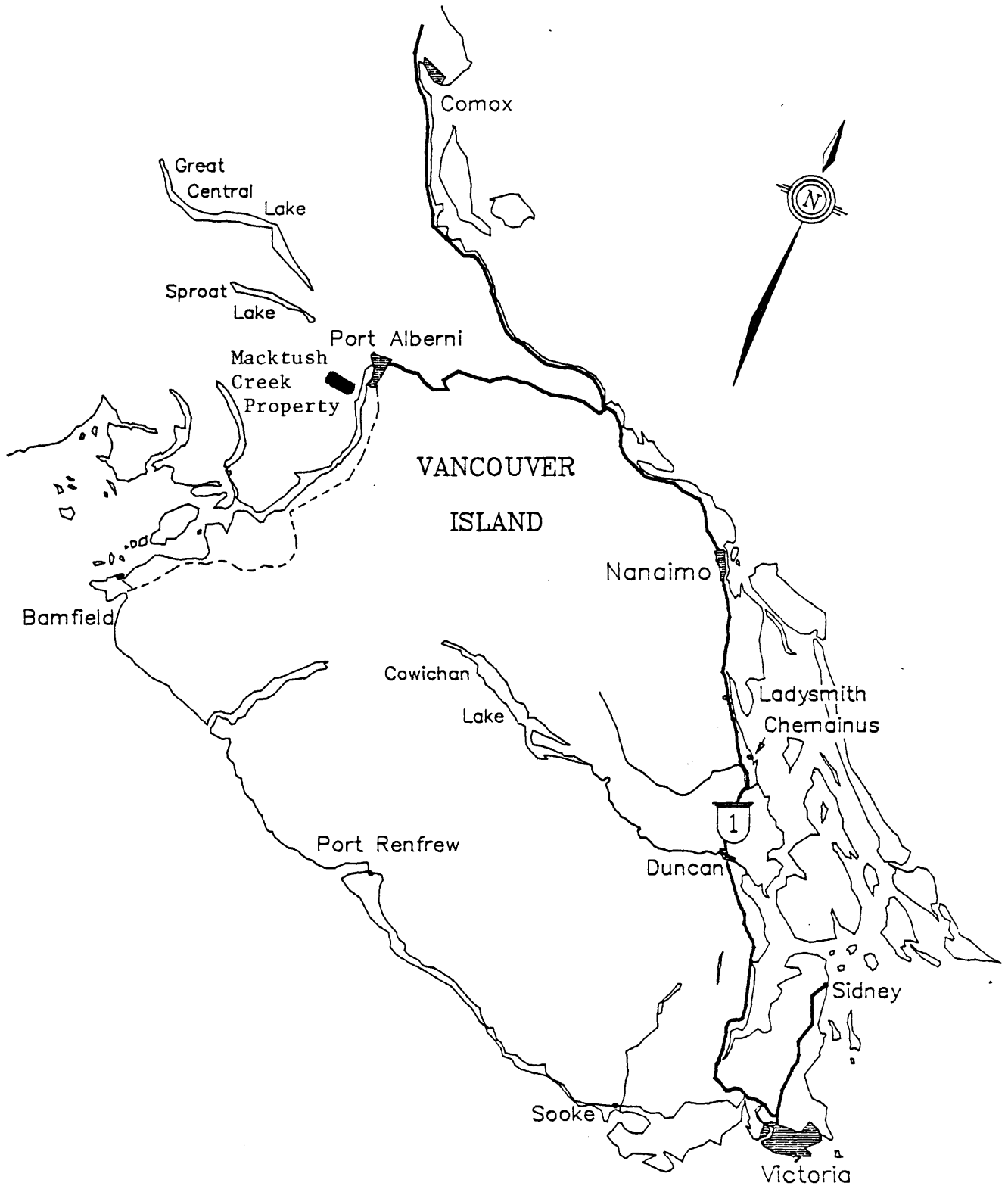
2.1 LOCATION AND LAND TENURE

Land with mineral potential in the project area is Crown Land where subsurface or mineral rights have been allotted by way of claims, Crown Grants or leases.

Forestry resources on the property are owned by MacMillan Bloedel as "Private Lands for Forest Production" under Certified Tree Farms No 2.

The location of the property is illustrated in Figure I.

General Location of the SYMC Property



Scale 0 20 40 km 1 : 915,000
1cm to 9.15km

2.2 HISTORICAL OVERVIEW

Exploration in the project area dates back to the late 1800s when massive sulphides were discovered on Mount Sicker (Tyee, Lenora and Richard III Mines). Between 1898 and 1909, these deposits produced 253,000 tons of ore grading 0.14 oz/ton gold, 2.92 oz/ton silver, and 3.77% copper; zinc and lead were also present but were not recovered. The mines closed because of dwindling reserves, low copper prices and a smelter penalty for the high zinc content. Several unsuccessful attempts have since been made to reactivate these mines.

A number of small pits and adits occur on the Macktush property. These are not well documented but are probably related to prospecting carried out at the turn of the century.

Extensive exploration is being carried out by TECK Resources, Westmin and Esso Resources immediately to the east across the canal, to the west and to the north of the Macktush property.

The Macktush property was staked by local prospectors in April 1981 and optioned to SYMC Resources in March 1987. SYMC carried out a program of brush clearing, geological mapping, local blasting and diamond drilling on an area showing most promising results.

The area investigated in detail covered a total strike length of 3,000 metres to depth of 150 ft. and widths of 24 ft.

3.0 GEOLOGY AND RESERVES

- The following is a report prepared for SYMC Resources by Frank C. Loring, P. Eng., Consulting Engineer.

The Geological Survey of Canada, paper 68-50, "Geology and Mineral Deposits of Alberni Map Area:", by J.E. Muller and D.J.T. Carson, shows this general area to consist of Karmutsen Formation volcanics, mainly basalts in pillowed, brecciated, or massive flows, with some tuffs or breccia, of Upper Triassic or older age, some 200 million years old. Showings of Sicker volcanics occur in contact zones with the granodiorite.

Into this Karmutsen Formation a granitic intrusion known as the Island Intrusions has occurred during the Jurassic Age, some 160 million years ago. In this area it is known as the Alberni Inlet batholith, and occurs on both sides of the Inlet. Rocks consist of granodiorite and quartz diorite with some quartz monzonite, which contains up to 25% feldspar.

Values on the claims are found in quartz veins in the granodiorite on Sicker formation contacts. There are numerous contacts with the volcanics and several veins have been found in the Karmutsen Volcanics, but so far these veins associated with the Sicker granodiorite contacts show gold values.

Along the Beach road, on the SYMC claims Copper 100, 101 and 400, is an extensive area of altered granodiorite that has returned some excellent gold, silver, and moly assays. This area warrants an intensive exploration program.

Values in the quartz veins seem to have been leached out on surface. It is necessary to go to some depth before interesting assays are reported.

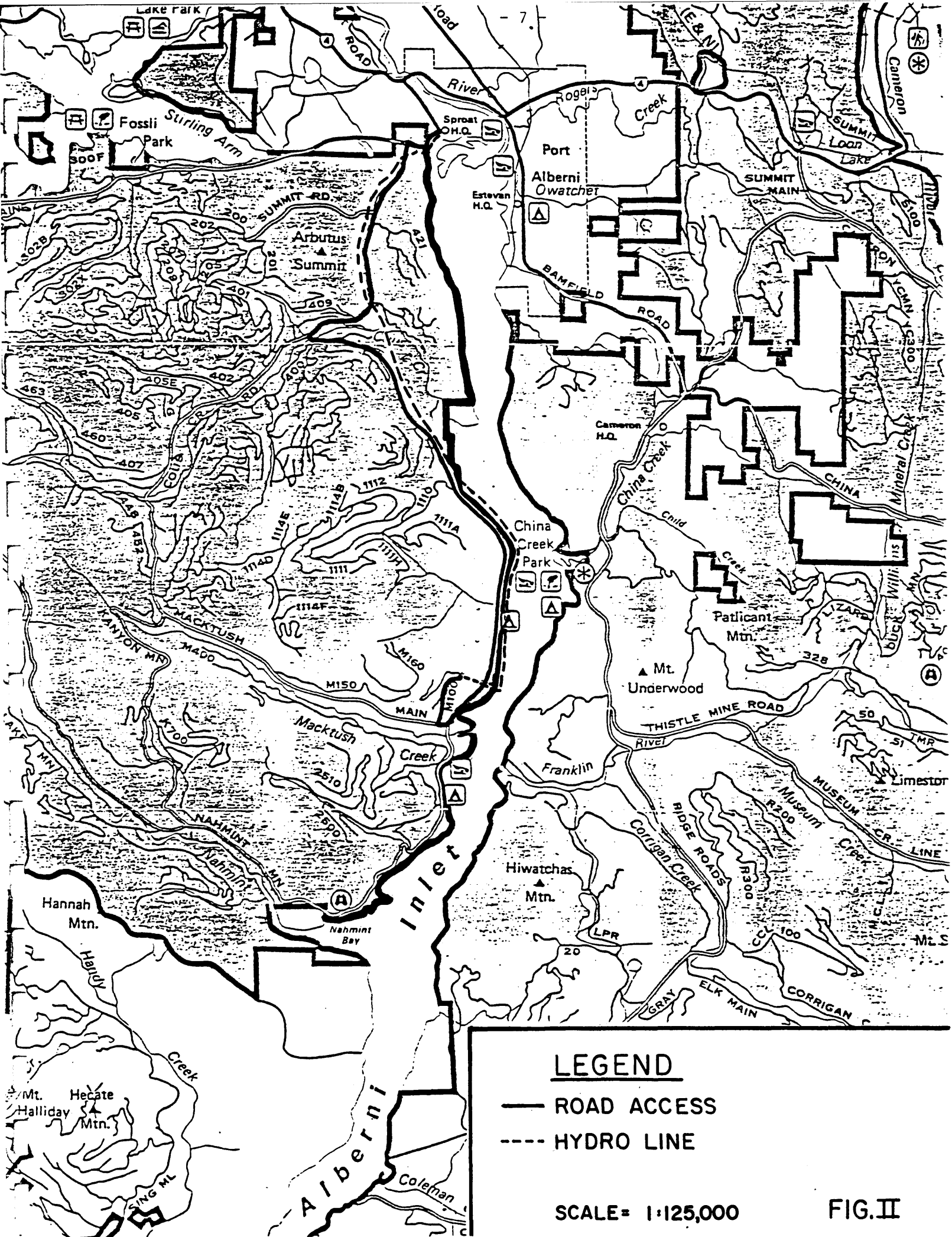
Project Description:

Introduction:

SYMC Resources Ltd. of Port Alberni is proposing to develop their gold, silver, copper claim group. Located on the west side of the Alberni Inlet on the west side of the Alberni Inlet on Vancouver Island, B.C. The property is located 12 miles south-west of the town of Port Alberni and consists of a group of 11 claims or 178 units. Covering an area of 7 square miles.

The SYMC Resources property is located near two areas of intense mining activity. On the east side of the Alberni Inlet, there is again activity at the old Thistle Mine. Westmin Mines are presently conducting an extensive drilling program in that area south of China Creek. This area is very similar in geology to the SYMC claims.

The location of the property and hydro line is illustrated in Figure II.



LEGEND

- ROAD ACCESS
- - - HYDRO LINE

SCALE = 1:125,000

FIG. II

The Kennedy Lake area is located 24 miles to the south-west and has also been the subject of considerable recent exploration activity. Several interesting prospects have been discovered. The area also has some similar geology.

Access:

The property is easily accessible on MacMillan Bloedel's Sproat Lake Division logging roads. These roads circle the property and enter at many places. A large portion of the property has been logged and logging is being continued on other parts. Most of the roads are accessible with standard two wheel drive vehicles.

Work On The Property

Dating back from the 1940s, two old adits and remains of a cabin have been found near some showings. The lower adit consists of 12 feet of open cut and 6 feet of adit. Some excellent gold, silver, copper assays have been obtained from here. This vein was intersected by drill hole #3 at depths of 110-113.5 and 122-134.5 and gave excellent results from core samples 60357 and 60358 as follows:

Gold .115 oz. Silver .43 oz. Copper .80% #60357

Gold 1.09 oz. Silver 5.08oz. Copper .94% #60358

Adit 20 ft. from surface

Chip sample #1 assayed gold 0.952

Silver 2.50 Copper 0.91

The upper adit is 28 feet deep with a quartz vein 11 feet wide. A chip sample taken from this vein by the Department of Mines.

Gold .43 oz. Silver 2.3 oz. Copper 1.12% #8412

A continuation of this vein has been located on surface some 86 feet vertically up the slope, above the upper adit. An assay of: Gold .416 oz., Silver 2.21 oz. and Copper .78% was taken by SYMC Resources Ltd.

Mineral Reserves

Undiluted mineable ore reserves have been calculated for the areas explored to date. The known deposit contains some 152,000 tons of ore averaging 0.54 oz. gold, 2.29 oz. silver, and .75% copper.

The reserves are in a vein from surface to an average depth of 76 feet, being 15 feet wide and 1000 feet long, and is open at both ends.

Probable Ore Reserves

The known reserves can be extended both horizontally and vertically to include 323,000 tons of probable ore grading at .24 oz. gold, 1.10 oz. silver, and 0.79% copper. With a possible ore reserve of 106,000 tons of ore grading .27 oz. gold, .31 oz. silver and .42% copper per ton.

Known reserves of rhodonite have been found as follows:

No. 1 Vein 3 feet wide, 200 feet deep and 300 feet long
equaling to 20,000 tons.

No. 2 Vein 1 foot wide, 50 feet deep and 500 feet long
equaling to 2,700 tons.

Brown
Granite?
↓
Paul Wilton
Mar. 1/88

Brown/teal
rhodonite ✓

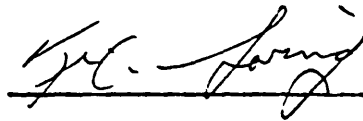
CERTIFICATE

I, Frank C.Loring, of Qualicum Beach, B.C., hereby certify that:

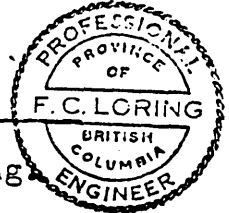
1. I am a Consulting Engineer, residing at R.R. 2, Qualicum Beach, B.C.
2. I am a graduate of Michigan Technological University, Houghton, Michigan, U.S.A., with B.Sc degrees in Mining and Mechanical Engineering.
3. I have been active in the mining industry for the past 30 years, in the fields of exploration, production, and consulting.
4. The information for the accompanying report was obtained by myself as the result of field work during 1987.
5. I do not have any ownership or financial interest in the property or financial assets of SYMC Resources Ltd.

I am a member of the Association of Professional Engineers of British Columbia.

Dated at Qualicum Beach, B.C., this 30th day of November, 1987.



Frank C.Loring, P.Eng.
Consulting Engineer.



4.0 CONCEPTUAL DEVELOPMENT PLAN

The following conceptual open pit mine, milling and waste disposal plans are preliminary and are presented primarily for initial review by the Mine Development Steering Committee. These plans will be modified during the engineering and design phase as more detailed information becomes available regarding the ore bodies, metallurgy and geotechnical and environmental factors pertaining to the tailings disposal site.

4.1 CONCEPTUAL MINE PLAN

The ore bodies on the Macktush property are generally steeply dipping, high grade lenses which are suitable for mining by above ground methods. The initial daily production rate will be 100 tonnes of ore per day on a 365 day per year basis with future expansion, building up to 200 tonnes per day. Using approximately 30 ft. deep x 90 ft. long x 20 ft. wide in the side of an 86 degree sloped hill.

The most important surface features will be the mill and the tailings impoundment area. The mill site will be approximately 1,000 ft. x 1,000 ft., consisting of 4 buildings and 2 water tanks. A tailings pit 500 ft. x 500 ft. x 50 ft. deep will be part of the proposed mine site.

4.2 CONCEPTUAL MILLING PLAN

For reasons of economy and efficiency, the primary crushing will be located in close proximity of the base of mine operations. From there ore will be conveyed by gravity to the main mill site located lower down the mountain. At the mill site, secondary crushing, jigging and final separation will take place. The mill would be designed to operate on the basis of 100 tonnes per day, seven days per week, 24 hours per day.

Detailed Metallurgical test work is presently being carried out. However, based on preliminary tests, the gold and silver can be separated by crushing and jigging alone.

The concentration process will consist of grinding in a rod mill - ball mill circuit, followed by jigging and flotation if necessary. Gold and silver would be separated at the mine and shipped to a refinery for final processing.

4.3 ANCILLIARY FACILITIES

The proposed ancilliary facilities will consist of an administration building, change houses, mine equipment maintenance shop/warehouse complex, metallurgy/assay laboratory, water supply and distribution system.

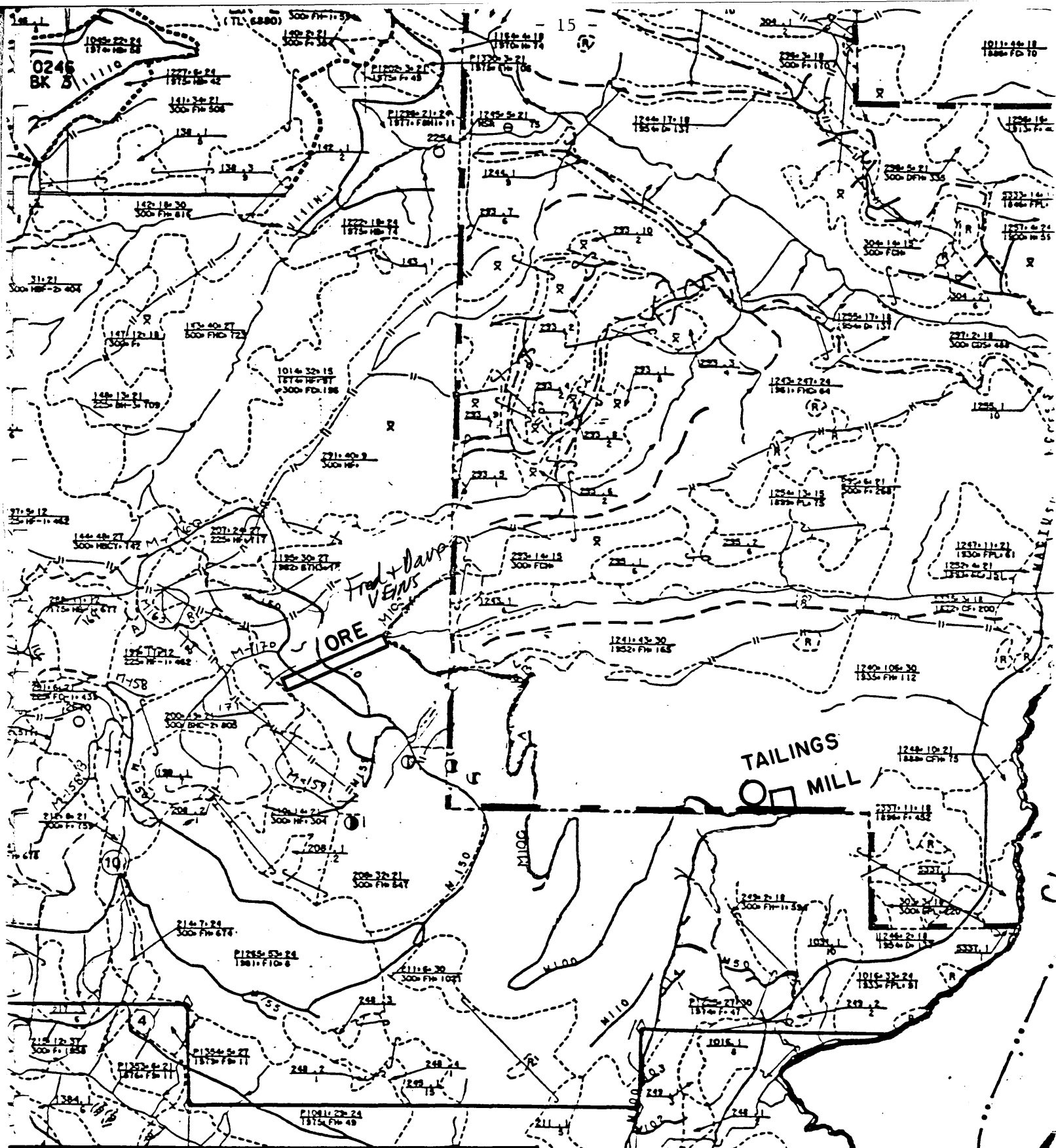
Process water would be obtained from an underground spring. This water would be pumped to storage tanks at the mill site. Domestic and fire water would be obtained from tanks. An application for a water licence will be submitted in the near future.

Electric power would be obtained from the B.C. Hydro Port Alberni Substation. A 25Kva power line would be constructed for a distance of 10 miles south to the proposed mine site along the existing McMillan Bloedel logging road. The Demand Load is estimated at 1500 kw. Application has been made to Lands and Forests for a permit to cut rightaway for power line.

4.4 CONCEPTUAL TAILINGS DISPOSAL PLAN

The most economical site for the tailings disposal area is in an existing natural depression close to the proposed mill site. The environmental studies and geotechnical investigations will be undertaken in order to determine its feasibility.

4.5 The mine site and tailings area is illustrated in Figure III.

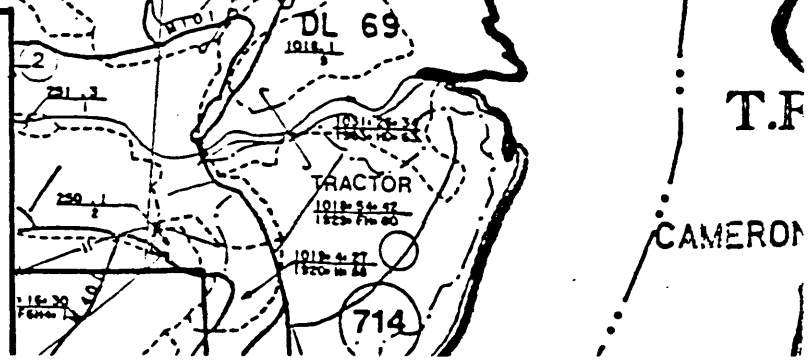


LEGEND

-  MINE SITE
-  TAILINGS
-  ORE VEIN

SCALE: 1:15,000

FIG. III



5.0 DEVELOPMENT SCHEDULE

The exploration program for 1987 did consist of surface drilling to delineate reserves of the main central veins and localized blasting on surface.

*How many holes?
Footage?*

As a result of a successful 1987 exploration program, a development program has been initiated in late 1987 to provide a bulk sample and establish the necessary data base for the preparation of a detailed mill process flow sheet.

Following on the above key project dates are expected to be as follows:

- Submission of Prospectus Report - Feb. 1988
- Submission of Stage I Report - July 1988
- Permits and Approvals - Mar. '88 - Sept. '88
- Site Construction & Pre Construction - June '88 - Nov. '88
- Production Target Date - Dec. 1988

6.0 PUBLIC PARTICIPATION AND INFORMATION PROGRAM

SYMC Resources is committed to providing a "Public Participation and Information Program" to help to ensure that Government Approval-in-Principle is not granted in isolation of public acceptance of the project; specifically the local communities affected by the project.

7.0 AVAILABLE INFORMATION

There is considerable socio-economic and environmental information available for the Port Alberni area from Government and private sources. However, this information is not specific to the mine site or in sufficient detail to meet the requirements of a Stage I Report.

7.1 ENVIRONMENTAL

7.1.1 Physiography

The Macktush property falls on the boundary of two physiographic subdivisions of the Western System of the Canadian Cordillera; the Coastal Trough and the Outer Mountain Area. More specifically, the property lies within the Vancouver Island Mountain Range of the Insular Mountains.

The Vancouver Island Ranges are composed of a heterogeneous group of pre-Cretaceous sedimentary and volcanic rocks intruded by numerous granitic batholiths.

7.1.2 Climate

Precipitation and temperature records for several nearby stations have been maintained by the Atmospheric Environment Service (1980), for the most part, over 30 years. The available data is summarized below.

<u>Station</u>	<u>Temperature</u>			<u>Precipitation</u>			<u>Days</u>
	<u>(Degrees C)</u>			<u>(mm)</u>			
	<u>Avg.</u>	<u>Min.</u>	<u>Max.</u>	<u>Rain</u>	<u>Snow</u>	<u>Total</u>	
Port Alberni	9.2	-21.7	41.1	1914.6	137.6	2019.0	159
Qualicum	9.2	-15.6	31.1	1275.3	47.4	1317.2	159
Nanaimo	10.0	-17.2	40.6	1043.6	71.7	1126.3	170
Alberni Robertson Creek	8.9	-22.2	39.4	2012.9	159.5	2176.8	172
Alberni McCoy Lake	9.1	-20.6	40.6	1864.3	233.5	2095.9	173

7.1.3 Hydrology

The closest main fresh water flow to the Mactush Creek property is the Nahmint River Catchment area directly south of Mactush Creek. Water survey of Canada have operated a flow gauge on the Nahmint River for the years 1924 to 1931 inclusive. Average discharge for the period of record is 20.7 m³/s with low flows normally occurring in August (3.93 m³/s) and peaking in December (32.6 m³/s) of each year. A maximum daily discharge of 248 m³/s was recorded in December 1931 and a minimum daily discharge of .934 m³/s was recorded in September 1929. No records are available for Mactush Creek.

7.1.4 Fishery Resources

There are no year round streams in the runoff area affected by the mining operations.

7.1.5 Vegetation

The main forest cover of the mine site lies within the Douglas fir - arbutus sub zone of the Douglas fir Bioclimatic zone. These are generally secondary to mature stands of growth. The forests typically consist of Douglas fir with an admixture of other conifers such as western red cedar, western hemlock, amabilis fir, grand fir and several deciduous species including red alder, arbutus, and maple. The understory is usually composed of a salal-swordfern association. Attached is a forest logging road map of the area in question.

7.1.6 Wildlife

Because of increasing urbanization and forestry, the capability of the eastern uplands of Southern Vancouver Island to support wildlife has declined. However, the following species are still found in the area and include cougar, wolf, elk, black tailed deer, black bear, red squirrel, racoon and grouse.

7.1.7 Recreation

Lands within the mine site area are classified as having low to moderately low capability for recreation. However, the property could be used for hunting, hiking and sightseeing.