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A PROSPECTUS FOR THE ABERMIN CORPORATION, LARA PROPERTY, CHEMAINUS, B.C.

Prepared for:

B.C. MINE DEVELOPMENT STEERING COMMITTEE

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EXECUTIVE SUMMARY

This Prospectus provides information with respect to an underground mining operation which is proposed for the Lara property located 15 km west of Chemainus on Vancouver Island. The property is being developed by Abermin Corporation (Abermin), as part of a joint venture agreement with Laramide Resources Ltd. Both companies have their head offices in Vancouver, British Columbia.

Since 1983, Abermin has conducted continuous exploration on the property and has outlined to date ore reserves of approximately 923,000 tons grading, 0.095 oz/ton gold, 2.61 oz/ton silver, 3.59% zinc, 0.81% lead and 0.61% copper. Additional exploration is planned for 1987 to further delineate ore reserves. Mineralization containing gold, silver, zinc, copper and lead has been discovered in the northwest portion of the Lara property in the Coronation and Coronation Extension Zones. Mineralization consists of strataform massive to disseminated sulphides made up of sphalerite and pyrite with lesser amounts of chalcopyrite, galena and tetrahedrite. Locally, massive sulphides occur. 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 are about 5 m in true thickness. The highest grade massive sulphides encountered to date on the property occur near the surface in the Coronation Zone. This zone has an average grade of 0.238 oz/ton gold, 6.71 oz/ton silver and significant concentrations of zinc, lead and copper over an average true width of approximately 3.4 m. Mining will be by underground methods. The initial daily production rate will be 680 tonnes per day on a 365 day per year basis.

Noting that an underground mine is planned, surface disturbance will be minimal. 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 the Lara ore is very similar to that of Westmin Resources Limited, Lynx mine and a similar milling process may be employed. The subaerial method of tailings disposal, used successfully at Westmin's Buttle Lake operations, will be thoroughly examined for use at the Lara site.

This Prospectus addresses the socio-economic and environmental issues associated with this proposed development and discusses the Stage 1 programs that will be There is considerable environmental information available for the implemented. Duncan/Chemainus 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. Noting the proximity of the mine site to the Chemainus River, the importance of the fishery resources of this system and that there are other users of this system, aquatic environmental issues are However, possible impacts upon other considered to be the most important. environmental resources such as wildlife and wildlife habitat, heritage and archaeological resources, vegetation and forestry resources, etc., will also be addressed thoroughly.

With respect to the socio-economic data base, it is important to note that the Lara site is within the Cowichan Valley 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. In preparing the socio-economic evaluation for this proposed development, it will be necessary to update the existing information with more recent unpublished information that will be obtained through a comprehensive interview program. The following points will be taken into consideration with respect to the Lara project:

- 1. A new townsite to serve the operating mine will not be required.
- 2. Three established communities (Ladysmith, Duncan and the District of North Cowichan) 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.

Abermin 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. In order to ensure that this program is comprehensive, Abermin have retained the services of specialist consultant for this phase 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.

1.0 INTRODUCTION

1.1 GENERAL

Exploration in the project area dates back to the late 1800's 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 Lara property was staked by Laramide Resources Ltd. in May 1981 and optioned to Abermin Corporation (Abermin) in September, 1982. Since that time, Abermin has carried out an exploration program over much of the property. Detailed exploration resulted in the discovery of the Coronation Zone in December, 1984. The Coronation Zone was tested extensively by diamond drilling in 1985 and this program resulted in the discovery of the Coronation Zone.

This Prospectus has been prepared by Abermin as a first step in obtaining approval for the development of a mining operation at the Lara site. Abermin 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 Lara property is located approximately 15 km west of Chemainus, approximately 75 km north of Victoria, and approximately 35 km south of Nanaimo. Access to the property is via an all weather two lane gravel road from the Island Highway near Chemainus. This road was developed initially as a logging road and provides good road access to the Lara property. The same road provides access to the Chemainus River Provincial Park. The Lara property is within easy driving distance of a major highway (the Trans Canada Highway), an airport (the Nanaimo Cassidy Airport), the Duke Point industrial park and marine terminal site, and the communities of Duncan, Ladysmith and the District of North Cowichan.

2.0 <u>THE LARA PROPERTY</u>

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 to the south of the property are owned by the Crown and are a portion of the "Vancouver Island Plantation Forest Reserve". Areas to the north are wholly owned by Pacific Forest Products Ltd. (CIP Inc.) as "Private Lands for Forest Production" under Certified Tree Farm No. 7. Similarly, some areas to the west are held by MacMillan Blaedel Ltd. under Certified Tree Farm No. 19.

Chemainus River Provincial Park, which encompasses 80 hectares, is accessible by 11 km of gravel road from Highway No. 1 and is located south of the Lara property at the junction of Humbird Creek and the Chemainus River. The location of the property is illustrated in Figure 1.

2.2 HISTORICAL OVERVIEW

Exploration in the project area dates back to the late 1800's 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 Lara property. These are not well documented but are probably related to prospecting carried out at the turn of the century. Underground work was carried out on a copper-bearing shear zone immediately north of the Lara property by Sharon Copper Mines Ltd. in 1962. Between 1965 and 1979, grass roots exploration was undertaken on what is now the Lara property by a number of mining groups including Cominco (1965 - 1966) and Umex (1978 - 1979).

The Lara property was staked by Laramide Resources Ltd. in May, 1981 and optioned to Abermin Corporation in September 1982. Abermin carried out a program of linecutting, geological mapping, geophysics and soil geochemistry over much of the property. Detailed follow-up in prospective areas consisted of additional surveys, backhoe trenching and diamond drilling which resulted in the discovery of the Coronation Zone (DDH 84-12) in December 1984. The Coronation Zone was tested extensively by diamond drilling in 1985. This program resulted in the discovery of the Coronation Extension Zone (DDH 85-40) on strike and to the east of the Coronation Zone and traced the two zones over a total strike length of 1,600 meters. In 1986, high grade massive sulphides were discovered in the Coronation Zone in Trench 86-43. This high grade zone was tested by eight drill holes and traced over a strike length of 160 meters.

3.0 <u>GEOLOGY AND MINERALIZATION</u>

3.1 GEOLOGICAL SETTING

The rocks underlying the Lara property form part of the Cowichan-Horne Lake Uplift, a tectonically uplifted belt of Paleozoic age rocks known as the Sicker Group. This belt of rocks forms an arcuate zone approximately 130 kilometers long extending from Saltspring Island to Port Alberni.

The northern part of the Lara property is underlain by volcanic flows and pyroclastic rocks which are rhyolitic to andesitic in composition and dip steeply to the north. Similar rocks host the massive sulphide deposits at Mount Sicker immediately east of the Lara property. These rocks are thought to be analogous to the Devonian age Myra Formation which hosts Westmin's gold, silver, zinc, copper, and lead deposits at Buttle Lake, 150 kilometers to the northwest. The Devonian age volcanic rocks have been thrust over Early Cretaceous age Nanaimo Group sedimentary rocks which are exposed on the southern half of the Lara property.

3.2 MINERALIZATION

Mineralization containing gold, silver, zinc, copper and lead has been discovered on the northwest portion of the Lara property in the Coronation and Coronation Extension Zones. These zones are hosted by quartz-feldspar porphyritic rhyolite of the Myra Formation. At least five intervals of porphyritic rhyolite occur on the northern part of the claim group; these are highly prospective for massive sulphides.

The Coronation and Coronation Extension Zones have been traced for a strike length of approximately 1,600 meters to a maximum depth of about 300 meters. The two zones are on strike with one another, dip about 60° to the north and are hosted by the same quartz-feldspar porphyry rhyolite unit.

Mineralization consists of strataform massive to disseminated sulphides made up of sphalerite and pyrite with lesser amounts of chalcopyrite, galena and tetrahedrite. Locally, massive sulphides occur, 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 are about 5 meters in true thickness.

The highest grade massive sulphides encountered to date on the property occur near surface in the Coronation Zone where massive sulphides have been traced over a strike length of 160 meters in eight diamond drill holes and one trench. This zone has an average grade of 0.238 oz/ton gold, 6."1 oz/ton silver, 14.91 % zinc, 3.07 % lead, and 1.48 % copper over an average true width of 3.4 meters.

3.3 PRELIMINARY GEOLOGICAL ORE RESERVES

Preliminary geological reserves for the Coronation and Coronation Extension Zones include 923,000 tons grading 0.095 oz/ton gold, 2.61 oz/ton silver, 3.59% zinc, 0.81% lead, and 0.61% copper.

4.0 <u>CONCEPTUAL DEVELOPMENT PLAN</u>

The following conceptual 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 Lara property are generally steeply dipping, high grade lenses which are suitable for mining by underground methods. The initial daily production rate will be 680 tonnes of ore per day on a 365 day per year basis.

The access decline, measuring 4.57 m wide by 4.27 m high, would be driven at -15% from a point approximately 200 meters south of the outcrop of the Coronation Zone and in the footwall. The mining method utilized would be overhand cut and fill using diesel powered trackless equipment. Broken ore would be hauled to the surface with 32 tonne capacity trucks. A main downcast ventilation raise will be bored from underground to serve both as the main air inlet to the mine and as a second outlet for personnel. The raise will be 3.5 meters in diameter and fitted with ladders and landings. The ventilation requirement would be approximately 70 m^3 /sec (150,000 CFM). Backfill requirements would be supplied partly from development headings with the balance coming from tailings sand.

4.2 CONCEPTUAL MILLING PLAN

For reasons of economy and efficiency, the crushing and concentrating facility will be located in close proximity to the mine portal. A preliminary mineralogical examination of drill cores from the Coronation Zone and the Coronation Extension Zone of the Lara property has been carried out by CANMET and the results have been assessed in a report by Coastech Research Inc. The mill would be designed to operate on the basis of 680 tonnes per day, seven days per week, 24 hours per day. The average hourly rate would be 28.3 tonnes per hour. No metallurgical test work has been carried out to date. However, it should be noted that the Lara ore is very similar to that of Westmin Resources Limited, Lynx mine. Although a specific flow sheet has not yet been designed, it is probable that the Lara flow sheet will be very similar to that of the Westmin's former operations as illustrated in Figure 2. In the mill, minerals from the broken ore would be concentrated by eliminating most of the waste rock and pyrite (iron sulphide) associated with the ore. The mill would produce a zinc concentrate assaying about 55% zinc in the form of zinc sulphide, which would be sold to a smelter in either Trail, B.C. or Japan. The mill would also produce a copper concentrate assaying about 30% copper metal in the form of copper sulphide which would be shipped to smelters in Japan. Depending upon the grade of lead in the ore, it may or may not be beneficial to produce a separate lead concentrate.

The concentration process will consist of grinding in a rod mill - ball mill circuit, followed by flotation to selectively separate sphalerite (Zn S) from the copper-lead minerals. A finer grind is required to separate the copper from the lead. The concentrates would be dewatered to 6% moisture by pressure filtration. The resulting concentrates would be trucked to a covered storage bin, easily accessible to rail and ship loading facilities. These facilities would be located in close proximity to a deep sea dock on the coast between Chemainus and Nanaimo. Gold and silver would not be separated at the mine, but shipped with the base metal concentrates and ultimately recovered at the smelter and refinery.

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 the underground mine. This water would be pumped to storage tanks at the mill site. Domestic and fire water would be obtained from a nearby creek. An application for a water licence will be submitted in the near future. Electric power would be obtained from the B.C. Hydro Sahtlam Substation. A 25Kva power line may be constructed for a distance of 13.5 km north to the proposed mine site along the existing 115 m B.C. Hydro right-of-way. The Demand Load is estimated at 3000 kw.

4.4 CONCEPTUAL TAILINGS DISPOSAL PLAN

The most economical site for the tailings disposal area is in the Solly Creek valley below the proposed mill site. The environmental studies and geotechnical investigations will be undertaken in order to determine the most appropriate site.

Tailings from the flotation process will be cycloned in a sizing plant for recovery of the coarse portion for mine backfill. The subaerial method of tailings disposal, used successfully at a number of other mine sites, will be thoroughly examined for use at the Lara site. With this method, the finer tailings in a slurry are discharged through spray bars onto the high end of a gently sloping "beach"; the slurry then flows down the beach forming a uniform tailings layer about 100 mm thick. Once a section is covered, the discharge is moved to another portion of the beach. The newly deposited layer is left to settle, drain, bleed and air dry before being covered with a subsequent tailings layer.

5.0 DEVELOPMENT SCHEDULE

The exploration program for 1987 will consist of surface drilling to further explore the Coronation Zone and continue general reconnaissance exploration. The total diamond drilling program will be approximately 9000 meters.

In addition, an Environmental Impact Study will be completed and some preliminary metallurgical tests will be carried out on ore samples from the Coronation Zone.

Subject to a successful 1987 exploration program, an underground exploration and development program would be initiated in 1988 which would provide a bulk sample and establish the necessary data base for the preparation of a feasibility study.

Under the most optimistic scenario, the Lara Joint Venture could be in a position to make a production decision by the spring of 1989 and be in production by the spring of 1990.