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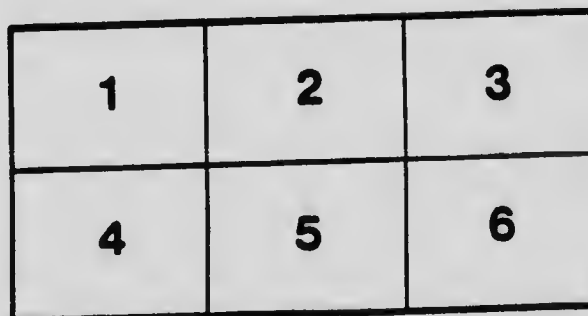
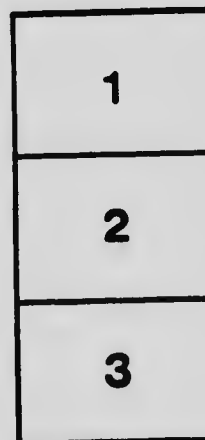
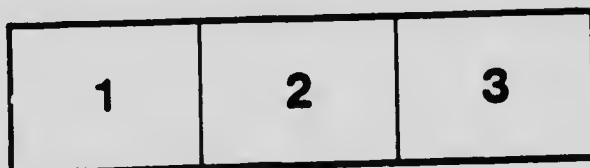
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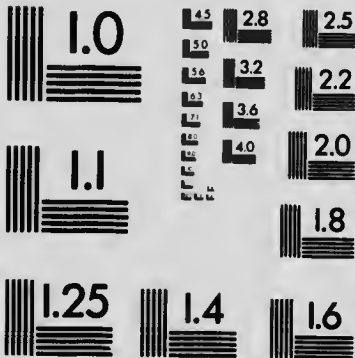
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PORT OF VICTORIA

BRITISH COLUMBIA



PRINCESS CHARLOTTE AND PRINCESS VICTORIA APPROACHING VICTORIA

COMPILED BY
THOS. C. SORBY
VICTORIA,
B. C.

Entered according to Act of Parliament of Canada
in the year 1919, by Thos. C. Sorby
at the Department of Agriculture

Copies may be obtained free at the office of
The Victoria and Island Development Association,
Belmont House, Victoria, B.C.



ELGINSHIRE LOADING 1,500,000 FEET OF LUMBER IN THE UPPER HARBOUR

LIST OF
**Docks, Wharves, Shipyards,
Marine Railways**

And Other Facilities for Repairing Ships in
THE PORT OF VICTORIA
British Columbia

List of Regular Steamship Lines Running In and Out of
the Port of Victoria, B. C.

1919

Compiled by Thos. C. Sorby, Secretary to the Inner Harbour Association.
429 Quebec Street, Victoria, B. C.

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PORT OF VICTORIA

BRITISH COLUMBIA

CANADA

INTRODUCTION

THE following tabulated statement of Docks, Wharves, Ship-yards, etc., that cluster round the harbour of Victoria, British Columbia, was compiled at the request of the United States Shipping Board. When complete, it was considered that with some further data covering the commerce of the ports of B. C. generally the brochure would be of value to ship-owners and shippers visiting these waters.

Particulars have, therefore, been added covering those products of Canada exported from the ports of the Province of British Columbia that might form the basis of return cargoes for vessels visiting these and neighbouring waters. To these have been added such information as to port charges and repairing and bunkering facilities as all ship-owners or charterers visiting foreign waters require to know.

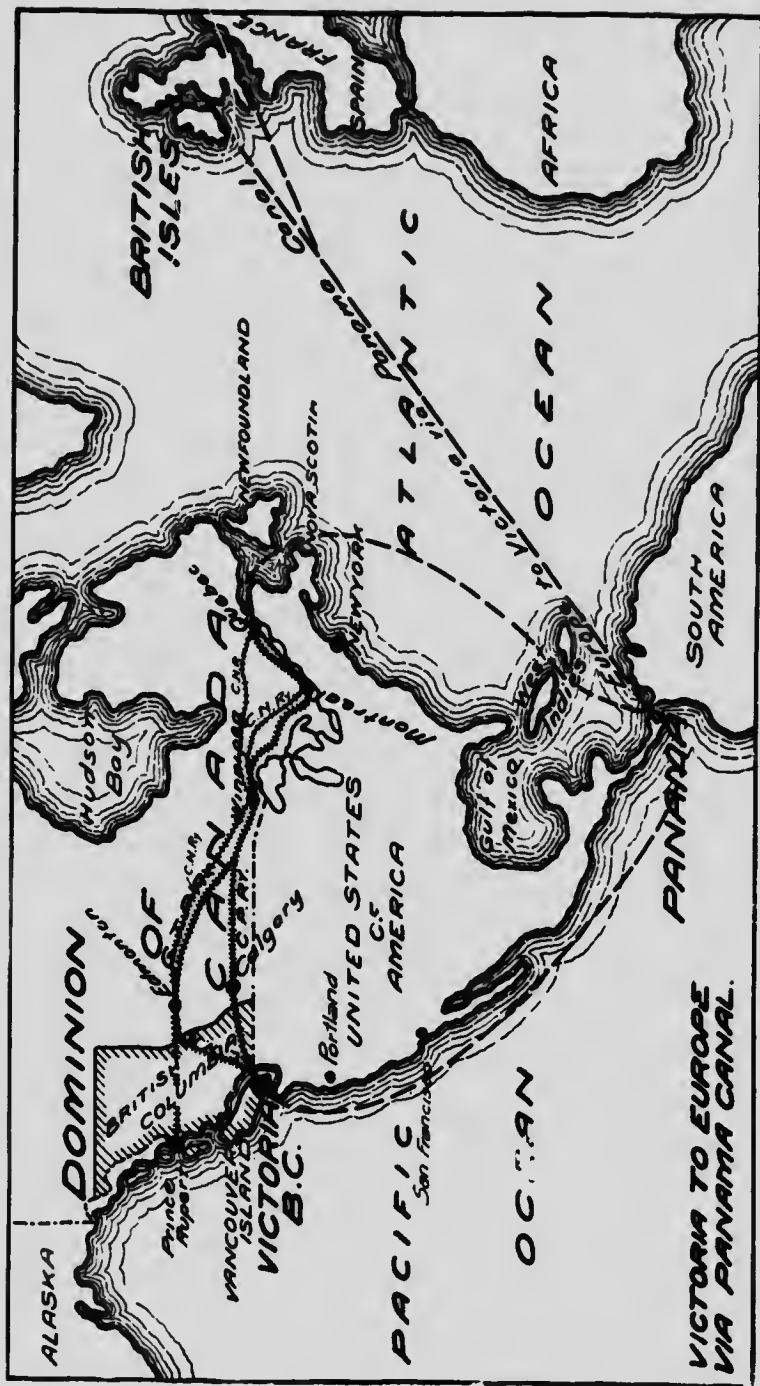
It is hoped, therefore, that this brochure will serve a useful purpose to the home producer and the foreign carrier and consumer.

THOS. C. SORBY.

429 Quebec Street, Victoria, B.C., Canada.

July, 1919.

152919



SKETCH MAP SHEWING GEOGRAPHICAL POSITION OF VICTORIA

INFORMATION AND DATA AS REGARDS THE PORT FACILITIES AT VICTORIA, B.C.

LIST OF DOCKS

Government Docks at Ogden Point.

No. 2 Dock: 1,000 feet in length on the S. side; 800 feet on the N. side; 250 feet in width in 35 feet water at low tide. Enclosed shed 700 feet long, 200 feet wide with tracks down the centre and at each side.

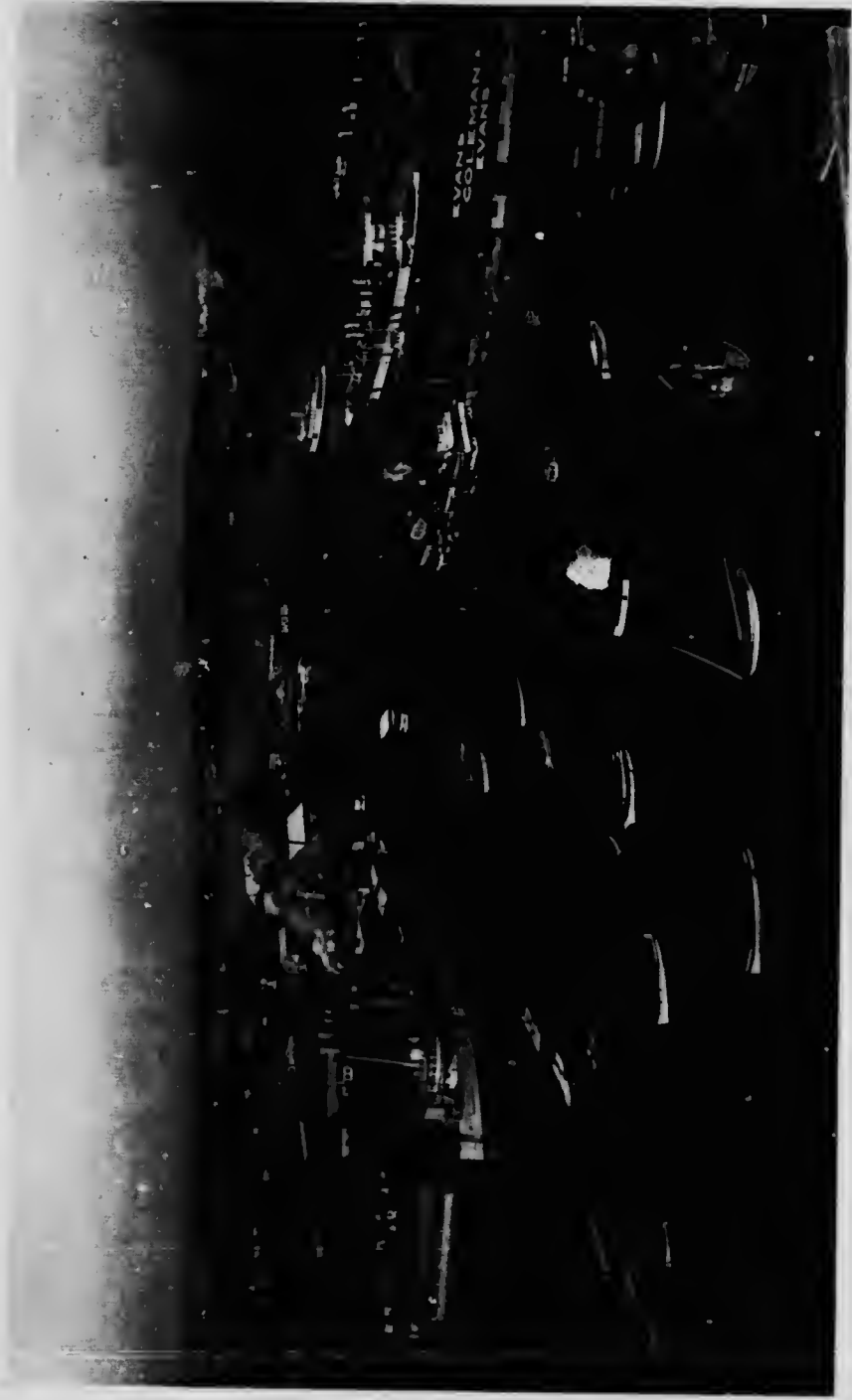
No. 3 Dock: 800 feet long; 250 feet wide in 35 feet of water. Enclosed shed, 200 feet by 200 feet; trackage down centre and on each side. These tracks connect with a car ferry slip close by and cars are brought from and taken to all parts of the mainland by way of C.P.R. or Canadian National Railway system.

Rithet's Outer Wharf, private owned:

Situate at the entrance to the Harbour, consists of two wharves in 30 to 33 feet of water at low tide. No. 1 wharf, north side 780 feet long; S. side, 600 feet long; cant end, 120 feet; general width, 100 feet; warehouse, 580 feet by 60 feet; cargo capacity of wharf, about 64 tons. No. 2 wharf about 1,030 feet long on N. side; cant end, 160 feet; warehouse, 800 feet by 100 feet; cargo capacity, about 13,000 tons. Third warehouse, about 240 feet by 80 feet; capacity, about 4,000 tons; salmon cannery, about 190 feet by 50 feet. The whole property covers an area of about 16 acres of land. No trackage.

C.P.R. Docks, Pacific Coast S.S. Service, Belleville St., James Bay:

Northern wharf, 440 feet in length by 120 feet general width with canted end in 17 to 19 feet of water low tide, with warehouse about 260 feet in length by 60 feet in width. The southern or land wharf has about 840 feet frontage in 16 to 20 feet of water, low tide;



THE INNER HARBOUR AS SEEN FROM THE EMPRESS HOTEL

warehouses, about 140 feet by 40 feet. Space between the docks about 140 feet tapering; 20 feet deep at entrance, shoaling. No trackage.

Grand Trunk Pacific, Coast Service, Wharf Street, James Bay:

Pier B: 320 feet by 130 feet with canted end in 20 feet of water at side. Warehouse, 253 feet by 110 feet.

Pier A: (Northern Wharf): Frontage, 372 feet; average width, about 70 feet; 20 feet of water; with warehouse 150 feet by 50 feet.

Space between the piers, 120 feet. Average depth, 20 feet low water.

A Car Ferry Slip under construction south of Point Ellice Bridge in connection with the Canadian National Railway system from and to which any cars can be taken to the Ogden Point Docks, or any wharf having the necessary facilities. This car ferry is in connection with the local line, Victoria to Patricia Bay, from thence by ferry to the mainland. (See also page 18.)

LIST OF WHARVES

Brackman & Ker's Wharf, Shoal Point, private.—120 feet frontage in 20 feet of water. Warehouses about 120 feet x 22, and 160 feet x 22 feet.

Victoria Chemical Company's Wharf, Shoal Point, private.—Water frontage 336 feet in 20 feet of water, l.w.; double tracked to a length of 400 feet. Cargo taken from ship's slings by steam power to trucks and conveyed to weighing machine with a capacity of 4,500 pounds.

Vancouver Milling & Grain Company, situate on Kingston Street (Lots 1284 and 1285).—Private wharf; 116 feet frontage, 11 feet of water. Warehouse about 115 feet x 58 feet. Two stories, one floor at wharf level, one floor at street level.

Warren's Wharf, private, Lots 1296, 1298 and 1277, situate on Montreal Street.—About 142 feet frontage; 11 feet water at face of piles contiguous to the 20 feet contour line. Disused lumber mill and yard used at present at fish curing works.

Lot 583, situate on Montreal Street.—Two piers about 18 feet x 30 feet, with water space 24 feet wide; 10 feet water at front end, close to 20 feet contour line, shoaling inwards. Roofed over. Dis-used stone yard.

Pendray's Wharf.—The British America Paint Co., Laurel Point. Have a wharf frontage of about 300 feet, in 10 feet to 16 feet water, in addition to water frontage covered by factory buildings. Enclosed shed about 100 feet by 45 feet and 80 x 20.

Raymond's Wharf, private, Belleville Street, Lot 562A.—About 72 feet frontage, 15 feet of water at face of piles. Warehouse on wharf about 60 feet x 50 feet. Warehouse at street level about 90 feet x 35 feet.

C.P.R. Wharf.—See Docks, page 7.

Victoria Dock Company, Wharf Street and James Bay (Lots 5 and 6).—Total wharf frontage on two faces about 360 feet in 18 to 20 feet of water. Two storey warehouse about 80 x 40 feet. Leased to the Pacific Salvage Company.

G.T.P. Wharves.—See Docks, page 9.

Custom House Wharf, Government owned; Wharf Street, foot of Broughton. About 80 x 60 feet; two faces in about 16 feet of water.

Hudson's Bay Company, Wharf Street.—Wharf frontage about 485 feet in 10 to 16 feet of water, contiguous to the 20 feet contour line; three enclosed sheds about 200 feet x 60 feet, 130 feet x 40 feet, and 100 feet x 100 feet. Coal yard at present.

North of the Hudson's Bay Company's Wharf, Wharf Street to the E. & N. Railway Bridge, about 800 feet of private-owned wharfage in 10 feet to 16 feet of water. More or less dilapidated sheds.

North of the E. & N. Railway, Store Street, Dunsmuir's Wharf, about 140 feet frontage in 12 feet to 16 feet of water. Three warehouses and office.

Porter's Landing—Dock about 50 feet wide by 90 feet long, with 15 feet of water at entrance shallowing to dry at low water.

Lots 125 and 126 (Leeming's) proceeding northwards along Store Street, about 120 feet frontage in 18 feet of water. Warehouse about 100 feet x 38 feet.

The City Garbage Wharf, foot of Telegraph Street, in water from 14 feet to 19 feet.

The Mount Royal Milling Co. (Rice Mills) Store Street, opposite E. & N. Railway freight yards.—About 112 feet frontage in 19 feet of water. Storage capacity about 550 tons, part covered.

Spratt's Wharf, Store Street.—Two piers each about 25 feet frontage on harbour by 100 feet long, in 11 feet of water at the entrance; slip shoaling inwards. Covered storage on south wharf, about 90 feet x 30 feet, and on the north wharf about 240 feet x 30 feet. Used at present as a coal yard.

Canadian Puget Sound Lumber Co., Constance Street.—Wharf about 550 feet long, 25 to 20 feet of water, with mill buildings in the rear. This wharf is also used for loading sea-going vessels with lumber cargoes lightered down from mills situate above Point Ellice bridge.

Taylor Mill property, Rock Bay, used as wood yard. About 388 feet frontage, dry at low water. Scows deliver at high water. Old mill storage about.

Ordano's Wharf, Rock Bay Bridge, about 150 feet of frontage; dry at low water. Old covered storage.

Lots 17 and 18, Bay Street, west of Rock Bay Bridge, Leeming's Wharf, about 250 feet frontage in about 16 feet of water, shoaling at the eastern end, next bridge, to 3 feet at low water.

Hutchison's Wharf—See Shipyards, page 12.

Victoria Machinery Depot.—See Shipyards, page 12.

Consolidated Whaling Company, Rock Bay Bridge.—Wharf about 200 feet long in 10 feet to 12 feet of water, and about 100 feet in 20 feet of water, with extensive covered storage.

LIST OF SHIPYARDS

Cholberg's Shipyard—Wooden ships only.

Three ways for vessels about 210 feet in length and about 1,500 tons register. Have ample, up-to-date facilities for building and repairing first class wooden ships. Auxiliary engines and deck machinery of all descriptions completed in and by adjacent machine shops. Wharf, 200 feet x 60 feet, in 20 feet of water, and about 250 feet and 200 feet proposed extension in 20 feet of water under construction.

Harbour Marine Co.—(Associated with the V.M.D.)

Two ways for steel vessels about 400 feet in length and about 8,500 tons register. This yard is fitted with the most modern steel shipbuilding appliances having the largest bar-bending furnace on the Coast. Repairs to steel ships done at the Victoria Machinery Depot at the head of the Upper Harbour.

Foundation Company (including at present five ways at Point Hope and four ways at Point Ellice yards), for the execution of a special contract for the wooden ships for the French Government.

Victoria Machinery Depot (V.M.D.), Bay Street, Marine Railway. Cradle, 280 feet long, 60 feet wide, providing dry dockage for repairing, cleaning, painting, etc., of vessels up to 3,000 tons displacement, or up to 325 feet in length; larger vessels are docked by the firm at Esquimalt Government Drydock (near Victoria). At the plant are up-to-date machine shops, boiler shops, plate bending furnaces, blacksmith shops, pattern shop, and foundry. Wharf, 275 feet x 60 feet in 20 feet of water; main wharf, 164 feet frontage in 20 feet of water; extensive area for receiving and storage of goods.

Hutchison Bros. & Co. Ltd., 409 Bay Street, (Adjoining the V.M.D.)—Wharf, 60 feet frontage in 20 feet of water. Has berthage facilities and can install main engines in vessels up to 3,000 tons register. Fully equipped machine shop for making all kinds of special machinery. Foundry in connection with machine shops on Garbally Road, floor space 40 feet by 140 feet. Equipped with all up-to-date appliances for handling castings up to 15 tons weight.



IN THE WOODS NEAR ALBERNI

Yarrows Ltd., Esquimalt Harbour, Victoria, associated with Yarrow & Co. Ltd., Glasgow, Scotland.

Shipbuilders, engineers and ship repairers; iron and brass foundries; makers of Manganese bronze propellers and large marine engine castings up to nine tons. Builders of sternwheelers and light shallow draft steamers, also vessels fitted with the Yarrow Patent Hinge Flap. Large stocks of steel plate and shafting always on hand.

The **Marine Railway** can accommodate vessels up to 315 feet in length and 3,000 tons displacement, larger vessels up to 480 feet in length being docked in the Esquimalt Graving Dock, which is adjacent to the yard.

Wharf, 615 feet in length, is equipped with 60-ton capacity sheerlegs and can accommodate vessels on both sides.

Floating crane, 95 feet lift, 10 tons capacity.

Floating compressed air plant, portable welding plant, machine shop, boiler shop, joiner shop, foundry, blacksmith shop, copper-smith shop and pipe shop, and galvanizing shop. (See also p. 25.)

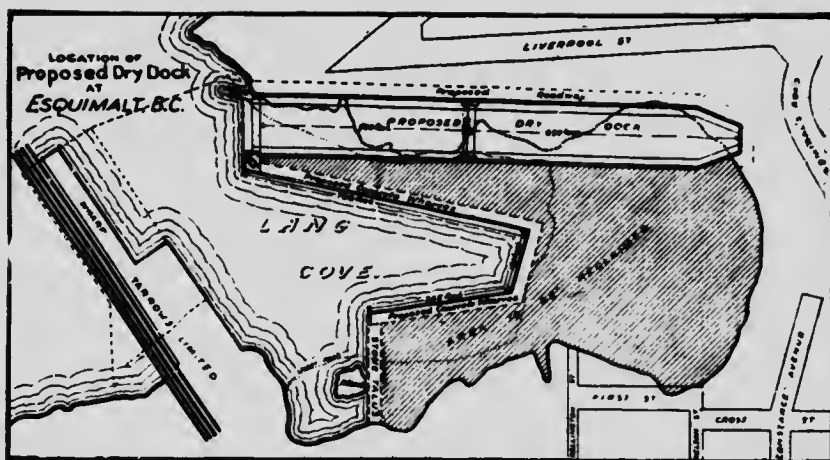


ESQUIMALT GRAVING DOCK

Esquimalt Graving Dock, Government-owned.—Length of dock to gate, 450 feet at keel blocks; 480 feet at curb; width at gates, 65 feet; depth of water, 27 to 29 feet 6 inches.

The use of the dock is subject to the following tariff:—

Gross Tonnage of Vessel	For the first day of docking	For each following day, including undocking day.
For all vessels up to 1,000 tons.....	\$ 300.00	5 cents per ton.
From 1,000 to 2,000 tons.....	350.00	4½ cents per ton.
For all vessels above 2,000 tons.....	400.00	} 4c per ton up to 2,000 tons and 2c per ton on all tonnage above 2,000
Vessels from 430 to 450 ft. in length.....	700.00	
Vessels from 450 to 480 ft. in length.....	700.00	



PLAN OF PROPOSED NEW DRY DOCK, ETC., AT ESQUIMALT

The **Canadian Government** has now decided to make Esquimalt the Naval Base for the Pacific Seaboard and will commence in the course of a few weeks the construction of a **new Dry Dock** in Lang's Cove, Esquimalt Harbour, immediately adjacent to Yarrow's Shipyard.

The plans provide the following dimensions: Length from caisson stop to head wall, 1,150 feet; width of entrance, 120 feet; depth on sill at ordinary high water spring tides, 40 feet; width at coping of dock walls, 144 feet. The dock will be divided into two sections, 650 feet and 500 feet respectively, each part to be closed by a ship steel caisson. For the purposes of emptying the dock, three centrifugal pumps, each with a pumping capacity of 60,000 gallons per minute, will be installed. Electric power, generated by the dock power plant, will run the pumps and other machinery. The walls of the dock will be of concrete construction with granite copings. The keel and bilge blocks will rest on granite strips extending the full length of the dock, and granite will be used for the caisson stops.

A basin, 560 feet long and 200 feet wide, will be provided on the south side of the drydock for the repairing of vessels while afloat and to permit the unloading of cargoes before the ship enters the graving basin. The structure around the basin will be built of reinforced concrete.

Other units of the drydock plant include: Boiler shop, 128 by 60 feet; machine shop, 240 by 100 feet; copper and pipe shop, 120 by 60 feet; general store, 123 by 60 feet; forge and smith shop, 144 by 60 feet; smith repair shop, 240 by 80 feet; slab furnace and angle smith shop, sail loft, paint shop and store.

Other buildings to be erected in connection with the drydock will include a spacious generator house, oil service tanks, and oil cistern, lined with concrete, office buildings and various details associated with an industrial plant of this magnitude.

Note.—Every care has been taken in the compilation of the foregoing statement of Docks, Wharves, Shipyards, etc., but the compiler takes no responsibility for their absolute accuracy.

BUNKER COAL

At Union Bay, 120 miles from Victoria, the **Canadian Collieries (Dunsmuir) Limited** have ample facilities for the rapid bunkering of all classes of steamships with Comox steam coal. Despatch can be given at the rate of 400 tons per hour. The Canadian Collieries (Dunsmuir) Limited contracts for the supply of this coal to the British Admiralty, Imperial Japanese Navy, Canadian Pacific, Nippon Yusen Kaisha, Blue Funnel, and other steamship companies.

There are also the **Canadian Western Fuel** at Nanaimo, the **Pacific Coast Coal Mines** at South Wellington, and others.

FUEL OIL

Inside McLaughlin Point and opposite the Outer Wharf is situate the wharf of the **Imperial Oil Company**, where fuel oil, gasoline, distillate, lubricating oils, etc., may be obtained.

STEAMSHIP LINES

Running in and out of the Port of Victoria, calling at the Outer Wharf.

Canadian Pacific Ocean Service, Limited, to and from China and Japan, every two weeks. This service includes the "Empress of Russia" and the "Empress of Asia," vessels of 17,000 tons. These vessels carry tea and silk to Vancouver for trans-shipment to New York, London and Paris over the C.P.R. System.

The Ocean S.S. Company, Limited, (Blue Funnel Line), sailings every 28 days to Japan, Hong Kong, Philippine Islands, etc.

Nippon Yusen Kaisha (Japan Mail S.S. Co.) Sailings every 10 days to and from Japan and China, in connection with the American railways, carrying silk and Oriental goods.

The Harrison Direct Line, monthly sailings, to and from Antwerp, Glasgow, London, Liverpool, etc.

The Royal Mail Steam Packet Co., monthly sailings to and from Europe, Hong Kong, China, Ceylon, Manilla, and the North Pacific Coast.

The Pacific S.S. Co., weekly sailings to and from San Francisco and California ports.

The Grace Line to and from Mexico and South American ports, via San Francisco, and from New York via the Panama Canal.

The Osaka Shosen Kaisha, with fortnightly sailings to and from Japan, Hong Kong, Manilla, in connection with the Milwaukee Railway.

The Canadian-Australian Royal Mail, with monthly sailings to and from Auckland, Sydney, Honolulu, Suva, etc.

In addition to these lines of steamships, there are a number of **tramp steamers**, bringing sulphur, nitrate of soda, superphosphate of lime, fuel oil, rice, fish, etc.

All these various lines of steamers have close connection at the neighboring ports of Vancouver, Seattle and Tacoma with all the transcontinental railways.

The **low port charges** make it possible for all these lines to call and discharge passengers and freight for Victoria and Vancouver. (See also page 20.)

COASTWISE SHIPPING

Canadian Pacific Railway B.C. Coast Service, Belleville Street, Inner Harbour.

Semi-weekly service in summer, and fortnightly in winter, to Alaska, calling at Prince Rupert and way ports.

Regular service to Northern British Columbia ports throughout the year.

Regular service to West Coast Ports on Vancouver Island throughout the year; three times per month.

Regular service to Nanaimo, Powell River, Union Bay, etc.

Regular service to Gulf Island ports.

Regular service to and from Vancouver twice daily, except Sunday.

Regular daily service to and from Seattle.

Grand Trunk Pacific B.C. Coast Service, Wharf Street, Inner Harbour.—A line of four steamships with regular bi-weekly sailings to Seattle, Vancouver, Ocean Falls, Swanson Bay, Prince Rupert, Anyox, and other northern ports.

Puget Sound Navigation Co., C.P.R. wharf, Belleville Street.—Regular daily services, except Sunday, between Victoria, Port Angeles, Port Townsend, Seattle and Sound ports.

CAR-FERRY SERVICE

The development of the **car-ferry coasting trade** is having an important effect upon industries on the Pacific Coast and is doing much to assist their growth. These ferries call at various points along the Coast, bringing railway freight cars to mills and other concerns which are not situated near a railway. The cars are either landed and unloaded or loaded directly on their barges. In this way, industrial concerns that are actually a considerable

distance from a railway are given direct rail connection. This service has made it possible for many mills to operate, which would otherwise not be in business at all. At a difference of only a few cents on the freight rate they have practically the same facilities as mills on a railway line itself. With the car-ferry service, any wharf in the harbor can be placed in communication with any local or transcontinental railway in Canada or the States.

A car-ferry service is maintained every day in the year by the C.P.R. with four car-barges and three tugs between Vancouver and Victoria and Island points, and the C.N.P. Railway is maintaining a similar service between Port Mann on the south side of the Fraser and Patricia Bay on Vancouver Island by the new car-ferry "Canora" with a capacity of 20 cars.

Victoria is a Port of Call for nearly all ocean going ships frequenting Puget Sound or Vancouver, and is centrally situated for the transmission of orders for other ports, being the first port of call and the last port of departure. Provisions, ships' stores, fuel oil and water are readily obtainable. The port is connected by steamship lines with all the northern ports of British Columbia and Alaska; with the United States, Mexico and South America on the Pacific Coast; with seven transcontinental railway systems; with Australia, New Zealand, South Africa, Honolulu, China, Japan, Siberia and the Malay Straits, and with New York and European ports via the Panama Canal.

Victoria is the first port on the shortest route from the Orient to Europe.

Call, wireless and telegraph communication with all parts of the world. The Wireless Station at Gonzales Hill can communicate with vessels 250 to 300 miles distant.

The Quarantine Station, at which all vessels, except coasting vessels coming to southern British Columbia are required to call, is at William's Head, about eight miles south of Victoria.

The Royal Roads, off the entrance to the Harbour, is a good anchorage (except during southeast gales which prevail in winter) with an area of about four square miles.

The standard **depth of water** in the **Inner Harbour** is 20 feet at low tide and spring tides rise from seven to ten feet; neep tides.

from five to eight feet. The spring tides are known as double, that is, two full high water periods merge into one with a slight depression in the centre of the period of a foot or two, giving a duration of high water of about 14 hours.

ORDINARY PORT CHARGES, VICTORIA

Hospital dues, per net ton, payable three times annually.....	\$ 0.01 1/2
Harbour dues, payable twice annually.....	5.00
Bill of Health.....	1.00
Pilotage (as per schedule below).	
Port agency.....	Up from \$15.00
Dockage charge (no cargo landed), \$4.00 for the first 200 tons and one-half cent for each additional ton.	

Stevedoring

LOADING—

Salmon or general cargo, per ton.....	\$0.65
Lumber and timber, per M. feet.....	\$1.90 to \$2.25

DISCHARGING—

General cargo (weight and measurement), per ton.....	\$0.55
Coal, per ton.....	.85

The **Pilotage regulations** are at present under consideration. The report of the Robb-Royal Commission provides "That the present system of charging and rate of pilotage, in force in the pilotage districts affected, be repealed and the following rates be substituted, the payment of pilotage in the Gulf being made compulsory based on the draught of water:—

	Per ft. draught.
Williams Head to Victoria or Esquimalt, or vice versa.....	\$ 0.75
Williams Head to Vancouver or New Westminster, or vice versa.....	3.50
Williams Head to Nanaimo, Union Bay, Powell River or intermediate ports, or vice versa.....	3.50
Victoria, Nanaimo, Union Bay, Vancouver, Powell River or intermediate ports, or vice versa.....	3.00
Powell River, Union Bay, Nanaimo or intermediate ports to Canadian Gulf limits in direction of Port Townsend, or vice versa.....	3.50
Vancouver to Nanaimo, Union Bay, Powell River or intermediate ports, or vice versa.....	3.50
Nanaimo to Union Bay, Powell River or intermediate pots, or vice versa.....	3.50
Movages in Harbours, each shift.....	\$10.00

NOTE.—Intermediate ports include ports on Vancouver Island between Union Bay and Victoria, and on the Mainland between Powell River and Vancouver.

The foreign trade of British Columbia, according to "Harbour and Shipping," as represented in exports and imports passing through the ports of the province approximated \$115,000,000 in 1918 of which more than \$58,000,000 was in exports. The exports showed an increase of \$12,000,000 over 1917 and of nearly \$20,000,000 over 1916, while since the war the exports have more than doubled in value.

In considering the question of possible **return cargoes** from British Columbia, the following list of principal articles (Canadian products) exported through the ports of the Province of British Columbia during the fiscal year ending 31st March, 1919, may serve some useful purpose:

	1917-18.	1918-19.
Coal and Coke	\$4,549,792	\$5,552,112
Copper Ore	6,376,216	4,379,383
Silver Ore	2,812,854	3,623,277
Salmon	4,633,324	3,445,460
Logs, Poles and Posts.....	730,982	407,236
Lumber	2,828,653	4,583,400
Timber	7,183	1,261,496
(Animal) Food Products.....	572,497	462,440
Furs, Hides and Wool.....	1,036,512	887,200
Grain and Products.....	2,158,027	2,035,663
Vegetables	376,676	1,106,462
Textiles and Products.....	433,210	1,354,998
Rubber Manufactures	183,737	987,767
Iron Manufactures	3,274,106	6,603,332
Metals, other	6,922,710	9,690,377
Pulp and Paper	5,358,686	1,516,277

This, however, does not include cement (a large and important item); the products of the whaling industry (whale oil, spermoil, fertilizer, etc., 5,000 to 6,000 tons); frozen fish, grain, and other articles that at present go by rail to eastern points for want of possible water carriage via the Panama Canal at competitive and lower rates. These articles would greatly swell the export tonnage that might be credited to these ports.

The total ocean **tonnage entering and clearing the ports** of British Columbia, according to "Harbour and Shipping," now exceeds 10,000,000 tons annually, according to 1918 statistics; the

coastwise tonnage being 13 millions in addition to this. Breaking these total figures up amongst the ports, we find Victoria exceeded 4 millions; Vancouver, 3,800,000 tons; Prince Rupert, 825,000 tons; Nanaimo, 800,000; New Westminster and Steveston, 34,500; Ladysmith, 147,000; Powell River, 185,000, and Anyon, 225,000 tons.

The average export of coal from Nanaimo during the last three years has amounted to 350,387 tons.

The average export for Victoria, mostly dressed lumber, is about 50,000 tons, which would be more than doubled if vessels were available to take cargoes via Panama Canal.

The following details show the respective quantity and value of the various **metals** and **miscellaneous products** represented by the 1918 figures: Gold, placer, 16,000 ounces, value \$320,000; gold, lode, 164,674 ounces, value \$3,403,812; silver, 3,498,172 ounces, value \$3,215,870; lead, 43,899,661 lbs., value \$2,928,107; copper, 61,483,754 lbs., value \$15,143,444; zinc, 41,772,916 lbs., value \$2,899,040; coal, 2,302,245 long tons, value \$11,511,225; coke, 188,967 long tons, value \$1,322,769. Miscellaneous products, value \$1,038,202. Total, \$41,782,474.

The **Department of Trade and Commerce** gives the following information of articles, products of Canada, that are mostly in demand and that are available for **export shipment** at the ports of British Columbia:—

For consumption in the **West Indies**: Dried, salted, smoked and canned fish, bacon, pork, boots and shoes, oil meal, and patent stock feed. The value of fish imported into the Barbadoes in 1918 was \$790,990.

Siberia: Logging and saw mill machinery.

South Africa: Foodstuffs such as flour, cereals, cheese, condensed milk, bacon, canned fruit and vegetables, canned salmon, boots and shoes. There is also a demand for paints and varnish.

Apples, boxed or barrelled, are greatly in demand by the larger importing firms of London and Southampton.

Australia: The Canadian Trade Commissioner at Melbourne estimates the following demands during the next five years:—

T and G flooring, 1 inch by 4 inches, and 1 inch by 6 inches, will be 350,000,000 super feet of flooring in a period of five years, to be supplied by the cargo or 70,000,000 ft. per annum, and about the same quantity of $\frac{1}{2}$ inch by 6 inch linings.

Doors, 6 feet 8 inches by 2 feet 10 inches, 500,000 in the next five years at the rate of 60,000 the first year.

Sashes, 5 feet 10 inches by 2 feet 10 inches, 600,000 within the next five years, or 120,000 during the first year.

The above are leading items in cargo lots.

The water-borne export of lumber from the ports of British Columbia in the year 1918 totalled 88,069,029 feet, of which 17,024,536 feet went to China and 19,803,335 feet went to Japan.

Fog is an element of danger to all shipping and a serious impediment to free navigation. Off Cape Beale at the entrance to the Strait of San Juan de Fuca the number of fog-bound hours is stated by the Dominion Meteorological Service to have averaged 843 hours per annum during the years 1913 to 1917; this is reduced to an average of 643 hours at Race Rocks at the west end of the Strait, and 566 hours during 1918. These figures are again reduced to 277 hours at the entrance to Victoria Harbour, showing that the fog-bound hours decrease rapidly as the vessel proceeds up the inland waters. Of the 643 fog-bound hours at Race Rocks, 403 were during the months of August, September and October.

For the port of San Francisco the records of the United States Lighthouse Inspection Service show 1,802 fog-bound hours during the year ending 30th June, 1918, and 1,591 as an average of 10 years. At Astoria, at the mouth of the Columbia River, the figures for 1918 were 811 and the average of five years was 696.

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