

# REPORT ON MACHINERY.

No. 348.

Port of *Vancouver*

Received at London Office 19

Survey held at *North Vancouver* Date, first Survey *Nov 24/11* Last Survey *April 4th 1911*

(Number of Visits *5*)

on the *Double propeller Steamer North Vancouver Ferry No 3* Tons <sup>Gross</sup> *1176.63* <sub>Net</sub> *750.04*

*J. Spracklin* Built at *North Vancouver* By whom built *Wallace Shippers, Limited* When built *1911*

Made at *Glasgow* By whom made *McKie & Baxter (nos 56304)* when made *1910*

Made at *Renfrew* By whom made *Babeox & Wilcox* when made *1910*

Horse Power Owners *North Vancouver City Ferries Ltd.* Port belonging to *Vancouver*

Is Refrigerating Machinery fitted *no* Is Electric Light fitted *yes*

ES, &c.—Description of Engines *1-Compound* No. of Cylinders *4* No. of Cranks *4*

Cylinders *(2) 10 1/2 (2) 23 1/2* Length of Stroke *24* Revs. per minute *140* Dia. of Screw shaft *as per rule 4 1/8* Material of *Steel*

Screw shaft fitted with a continuous liner the whole length of the stern tube *Yes* Is the after end of the liner made water tight

Propeller boss *Yes* If the liner is in more than one length are the joints burned *Yes* If the liner does not fit tightly at the part

between bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *no* If two

are fitted, is the shaft lapped or protected between the liners *no - space kept full of grease* Length of stern bush *30"*

Shaft as per rule *as above* Dia. of Crank shaft journals *as per rule 6 3/8* Dia. of Crank pin *6 3/8* Size of Crank webs *8 1/4 x 7 1/4* Dia. of thrust shaft under

as fitted *6 3/8* Dia. of screw *6.9* Pitch of screw *4.6* No. of blades *4* State whether moveable *yes* Total surface *20.5*

Donkey pumps *2* Diameter of ditto *5* Stroke *12* Can one be overhauled while the other is at work *yes*

Large pumps *(2) 8 1/2* Diameter of ditto *6* Stroke *8* Can one be overhauled while the other is at work *yes*

Donkey Engines *2* Sizes of Pumps *8x6x8, 6x5x6* No. and size of Suctions connected to both Bilge and Donkey pumps

Room *One - 2 1/2, One 3"* In Holds, &c. *Two - 2 1/2"*

Water injections *1* sizes *5* Connected to condenser, or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *yes - 3"*

Bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*

Connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *Valves*

Are they sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes* Are the discharge pipes above or below the deep water line *above*

Each fitted with a discharge valve always accessible on the plating of the vessel *yes* Are the blow off cocks fitted with a spigot and brass covering plate *yes*

How are they protected *Steel casings*

Are pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*

Are bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*

Are stern tube, propeller, screw shaft, and all connections examined in dry dock *21/1/11, 10/2/11* Is the screw shaft tunnel watertight *none*

with a watertight door *yes* worked from *yes*

ES, &c.— (Letter for record ) Total Heating Surface of Boilers *2808* Is forced draft fitted *no*

Description of Boilers *Two - B+W. Water tube* Working Pressure *160* Tested by hydraulic pressure to *350*

at *21/1/11* Can each boiler be worked separately *yes* Area of fire grate in each boiler *53* No. and Description of safety valves to

*2* Spring loaded Area of each valve *15.94* Pressure to which they are adjusted *160* Are they fitted with easing gear *yes*

Distance between boilers or uptakes and bunkers or woodwork *18"* Mean dia. of *boilers* *3.0* Length *11.4* Material of *shell plates* *Steel*

*7/16* Range of tensile strength *24/28* Are they welded or flanged *no* Descrip. of riveting: cir. seams *DR Lap* long. seams *DBS, DR*

of rivet holes in long. seams *23/32* Pitch of rivets *3 1/2* Lap of plates or width of butt straps *8"*

Strength of strength of longitudinal joint rivets *81.6* Working pressure of shell by rules *242* Size of manhole in shell *15" x 11"*

plate *79.4* Compensating ring *flanged* No. and Description of Furnaces in each boiler *1 - square* Material *yes* Outside diameter *yes*

Main part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

bottom Thickness of plates bottom Pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam *drum*

Material Thickness *5 1/8* Pitch of stays How are stays secured Working pressure by rules *233* Material of stays

at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

of tubes *1 1/16* Pitch of tubes Material of *tube plates* *Steel* Thickness: Front *7/32* Back *7/32* Mean pitch of stays *yes*

Spaces wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

of girder at centre Length as per rule Distance apart Number and pitch of Stays in each

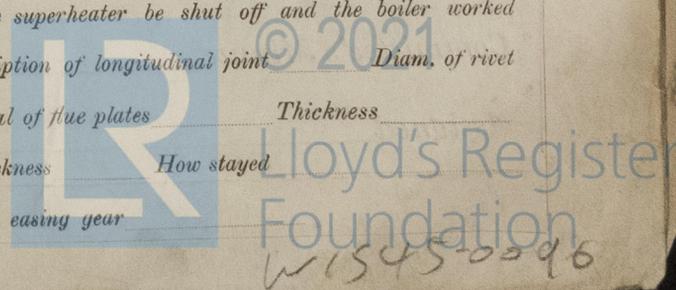
Working pressure by rules Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



**DONKEY BOILER—** No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boiler \_\_\_\_\_

enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of \_\_\_\_\_

strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_

Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_

Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Descrip. \_\_\_\_\_

joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:—

*See ltr 23<sup>rd</sup> May*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	24/11/10. 2/12/10. 21/1/11. 28/2/11. 4/4/11	Is the approved plan of main boiler forwarded herewith
	During erection on board vessel - -		
	Total No. of visits		

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

*These Engines and Boilers have been constructed under Special Survey at Glasgow and Renfrew respectively, were specially surveyed while being fitted on board of the vessel, are securely fastened; pumping and sea connections satisfactory, workmanship of good quality; main steam pipes tested by hydraulic pressure to 350 lbs, safety valves on both boilers adjusted under steam to 160 lbs. Machinery seen working satisfactorily under full steam trial of six hours.*

*Is eligible in my opinion to have the notation in the Register Book + L.M.C. 4.11.*

*The date of build of the Engines should be recorded 1911.*

*It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.11.*

Water tube boilers Subject to Annual Survey. 160th. J.W.D. 6/6/11

*APR*

The amount of Entry Fee	£ 2 : 0 :	When applied for,
Special	£ 7 : 0 :	April 4 1911
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	April 7 1911

*J. G. Mitchell*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. JUL. 25. 1911

Assigned + L.M.C. 4.11 subject



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Gen'l Surveyor

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)