

REPORT ON MACHINERY.

No. 746.

Received at London Office

Date of writing Report *July 23 1919* When handed in at Local Office *July 23 1919* Port of *Vancouver, B.C.*
No. in Survey held at *Vancouver, B.C.* Date, First Survey *Dec. 30/18*, Last Survey *July 16 1919*
Reg. Book. *Single Screw Steel S.S. War Column* (Number of Visits *29*) Gross *57524.8*
on the *D. Gillies* Built at *Vancouver, B.C.* By whom built *J. Coughland Sons* When built *1919*
Engines made at *Spokane, Wash.* By whom made *Hallidie & Co.* when made *1919*
Boilers made at *Vancouver, B.C.* By whom made *Vulcan Iron Works* when made *1919*
Shaft Registered Horse Power *2500*. Owners *Imperial Munition Board* Port belonging to *London*.
Nom. Horse Power as per Section 28 *577* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Peared Turbines Parsons Cross Compound Turbines 1 H.P.* No. of Cranks *2*
H.P. 10, L.P. 12 *Double Reduction Altern. Elements 10, of 20.*
Dia. of Cylinders *12.5* Length of Stroke *13.5* Revs. per minute *90* Dia. of Screw shaft *14* Material of *Steel*
Is the 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
in the 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 the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *Tight Fit* If two
liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *4'-8"*
Dia. of Tunnel shaft *12.5* Dia. of Crank shaft journals *13.5* Size of Crank webs *13.5* Dia. of thrust shaft under
collars *12.5* Dia. of screw *12.5* Pitch of Screw *13'-0"* No. of Blades *4* State whether moveable *Yes* Total surface *81 Sq Feet*
No. of Feed pumps *20* Diameter of ditto *8"* Stroke *16* Can one be overhauled while the other is at work *Yes*
No. of Bilge pumps *20* Diameter of ditto *8"* Stroke *16* Can one be overhauled while the other is at work *Yes*
No. of Donkey Engines *one* Sizes of Pumps *12x12x12* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *4 of 3 1/2" Diam* In Holds, &c. *Two in each hold. 3 1/2" Diam*
No. of Bilge Injections *1* sizes *10"* Connected to condenser, or to circulating pump *Pump* Is a separate Donkey Suction fitted in Engine room & size *Yes, 3 1/2"*
Are all the 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*
Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Valves & Cocks*
Are they fixed 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 *Below*
Are they 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*
What pipes are carried through the bunkers *None* How are they protected *Yes*
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *Yes*
Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Upper Deck*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Stewarts & Lloyds L.*
Total Heating Surface of Boilers *8325* Is Forced Draft fitted *Yes* No. and Description of Boilers *3 Scotch Marine*
Working Pressure *190 lb* Tested by hydraulic pressure to *300 lb* Date of test *May 1/19* No. of Certificate *20*
Can each boiler be worked separately *Yes* Area of fire grate in each boiler *63* No. and Description of Safety Valves to
each boiler *Two of Marine* Area of each valve *9.06* Pressure to which they are adjusted *190 lb* Are they fitted with easing gear *Yes*
Smallest distance between boilers or uptakes and bunkers or woodwork *18"* Mean dia. of boilers *14 9/8"* Length *11-5 1/2"* Material of shell plates *Steel*
Thickness *1 5/16* Range of tensile strength *31.1 Tons* Are the shell plates welded or flanged *Yes* Descrip. of riveting: cir. seams *Lap Riveted*
long. seams *Double Butted* Diameter of rivet holes in long. seams *13/8"* Pitch of rivets *9.358* Lap of plates or width of butt straps *14 1/2 x 22 1/2*
Per centages of strength of longitudinal joint *89.407* Working pressure of shell by rules *193.6* Size of manhole in shell *12" x 16"*
Size of compensating ring *193.6* No. and Description of Furnaces in each boiler *3 Morrison* Material *Steel* Outside diameter *48 3/16*
Length of plain part *193.6* Thickness of plates *1 5/16* Description of longitudinal joint *Yes* No. of strengthening rings *Yes*
Working pressure of furnace by the rules *195.9* Combustion chamber plates: Material *Steel* Thickness: Sides *1/16* Back *1/16* Top *1/16* Bottom *7/8*
Pitch of stays to ditto: Sides *8"* Back *7 1/8"* Top *7 1/2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *194*
Material of stays *Steel* Area at smallest part *1.761* Area supported by each stay *57* Working pressure by rules *194* End plates in steam space:
Material *Steel* Thickness *1 1/16* Pitch of stays *16 1/4"* How are stays secured *Nuts* Working pressure by rules *195* Material of stays *Steel*
Area at smallest part *4.9* Area supported by each stay *364* Working pressure by rules *195* Material of Front plates at bottom *Steel*
Thickness *1 5/16* Material of Lower back plate *Steel* Thickness *1 5/16* Greatest pitch of stays *7 1/8"* Working pressure of plate by rules *194*
Diameter of tubes *2 1/2"* Pitch of tubes *3 7/8"* Material of tube plates *Steel* Thickness: Front *1 5/16* Back *3/4"* Mean pitch of stays *7 1/8"*
Pitch across wide water spaces *12 7/8"* Working pressures by rules *191.9* Girders to Chamber tops: Material *Steel* Depth and
thickness of girder at centre *10 x 3 1/4"* Length as per rule *3'-0"* Distance apart *7 1/2"* Number and pitch of stays in each *30/7 1/2"*
Working pressure by rules *136* Steam dome: description of joint to shell *Yes* % of strength of joint *Yes*
Diameter *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivet holes *Yes*
Pitch of rivets *Yes* Working pressure of shell by rules *Yes* Crown plates *Yes* Thickness *Yes* How stayed *Yes*

SUPERHEATER. Type *Foster* Date of Approval of Plan *20/2/19* Tested by Hydraulic Pressure to *630 lb*
Date of Test *20/2/19* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes*
Diameter of Safety Valve *1 1/2"* Pressure to which each is adjusted *210 lb* Is Easing Gear fitted *Yes*

005132-005140-0272

005132-005140-0274

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If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: — One Thrust Bearing complete. 2 Stud Nuts for Rotor Bearing. 2 Stud Nuts for Main Turbine. 2 Stud Nuts for Main Gearing Bearing. 2 Stud Nuts for Pinion Bearing. One Set of Coupling Bolts each size. $\frac{1}{2}$ 20 Bolts for Casing Joint. $\frac{1}{2}$ 20 Bolts Turbine Joint. Two 3/4 inch for oil cooling system, one Set Bearing Bushes for one Gear Wheel, one Set of Bearing Bushes for one Pinion, one Set of Bearing Bushes for Rotor Bearing. $\frac{1}{2}$ Set of Pads for Kingsbury Thrust. 1 Set Feed Pump Valves. 1 Set Relief Pump Valves. One Bush Rod for Lubricating oil Pump. One Corted Bolt Nuts. Steel Barrot Plates. Spare Propeller Spare Tail Shaft. Spare Boiler Tubes. Set Spare Check valves. Safety Valve Springs. Spare Super heater Coils. Spare Condenser Tubes. Ferrule

The foregoing is a correct description,
J. H. H. & Son

The foregoing is a correct description.

J. C. May Man & Son

Manufacturer.

Dates of Survey while building		Remarks
During progress of work in shops ---	Dec. 30/18, Jan. 6/19	Is the approved plan of main boiler forwarded?
During erection on board vessel ---	Feb. 3-11-10, March 5-14-20-26-28, April 2-8-22-28, May 1-2-9-12-16-20-21-26-27-30 June 4	
Total No. of visits	July 7, July 15, July 16-1919 29 visits	

Dates of Examination _____

Examination of principal parts—Cylinders ✓ Slides ✓ Covers ✓ Pistons ✓ Rods ✓
Connecting rods ✓ Crank shaft ✓ Thrust shaft ✓ Tunnel ✓
Stern tube ✓

Completion of pumping apparatus 17/5/19 Steam pipes tested 27/5/19 Engine and boiler seating 30/5/19 Tunnel shafts 16/5/19 Screw shaft 16/5/19 Propeller 16/5/19

Completion of fitting sea connections 9/5/09 Boilers fixed 12/5/09 Engines holding down bolts 30/5
Engines tried under 15/5/09

Main boiler safety valves adjusted	16/7/19	Stern tube	1/5/19	Screw shaft and propeller	16/7/19
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Material of Crank shaft ✓ Identification Mark on Do. 716 "central"

Material of Tunnel shafts	Steel	Identification Marks on Do.	16042	Material of Thrust shaft	-	Identification Mark on Do.	16764
Material of Steam Pipes	Steel	Identification Marks on Do.	1919	Material of Screw shafts	Steel	Identification Mark on Do.	5914

an installation fitted for burning oil fuel

Is the flash point of the oil to be used over 150°F.

Is this machinery duplicate of a previous case? Yes It so state 385 B

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

and was replaced by L.P. Turbine Shop 201

Engines & Boilers of this Vessel have been built by B.

in accordance with approved plans, together with

Mountings, Settings, Sea Connections, &c. 2

...ship are both of good quality on completion.

At the installation the vessel was tried and

ated independently of a satisfactory. Sept. Valuer.

Please Refer to Part 1. Rail Shop is a continuous line

Please Refer to Pettibone B

Please. Refer to Portland Report. H 52

Machinery and Bldg 571

have the Record. † L M C 216

look on the Case of this Special

Special ... \$1.63 : 00

Monkey Boiler Fee ... \$ 40.00 July 23 1919
When received
Geo. A. M. Lawrence

Selling Expenses (if any) £ : : 15/8 19 19 1/10

Committee's Minute

red. *thms 7.19*

Lloyds Register

National Endowment for the Humanities