

REPORT ON MACHINERY.

Received at London Office

Date of writing Report Nov 25 1918 REC'D NEW YORK Dec. 4-1918 When handed in at Local Office 1918 Port of PORT ARTHUR ONTARIO

No. in Survey held at PORT ARTHUR ONTARIO Date, First Survey 9-29-17 Last Survey 10-30-1918
Reg. Book. on the Steam Single Screw Steamer "War Horus" (Number of Visits)

Master Built at Port Arthur, Ont. whom built Port Arthur Ship Bldg Co. When built 1918
Engines made at PORT ARTHUR ONT. By whom made PORT ARTHUR SHIPBUILDING CO. when made 1918
Boilers made at PORT ARTHUR ONT. By whom made PORT ARTHUR SHIPBUILDING CO. when made 1918

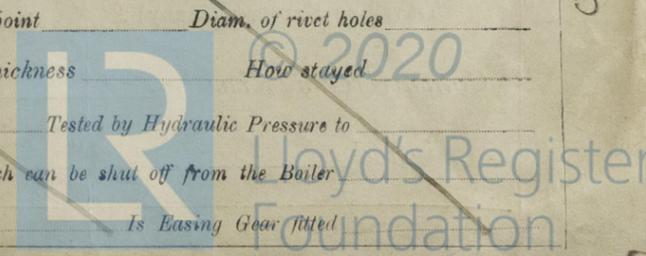
Registered Horse Power 1520 Owners IMPERIAL MUNITION BOARD Port belonging to Port Arthur, Ont.
Nom. Horse Power as per Section 28 267.32 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines 3 cycle Triple expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 20 1/2 X 32 X 56 Length of Stroke 40 Revs. per minute 80 Dia. of Screw shaft 1.22 Material of screw shaft Forged 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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4'6"
Dia. of Tunnel shaft 10.94 Dia. of Crank shaft journals 11.48 Dia. of Crank pin 1.5 Size of Crank webs 7/2 X 20 X 22 Dia. of thrust shaft under collars 12 Dia. of screw 14.9 Pitch of Screw 14'6" No. of Blades 4 State whether moveable NO Total surface 70.8 sq. ft.
No. of Feed pumps 3 Diameter of ditto 10 Stroke 24 Can one be overhauled while the other is at work yes
No. of Bilge pumps 3 Diameter of ditto 20 Stroke 20 Can one be overhauled while the other is at work yes
No. of Donkey Engines One Sizes of Pumps B 7 1/2 X 8 1/2 X 10 A 9 X 6 X 10 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 3 7 X 7 X 10 In Holds, &c. Five 3"

No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes
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 NO Are the Discharge Pipes above or below the deep water line above
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 aux. Steam pipe How are they protected Sheet iron guard
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 Engine Platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Lukes, U.S.A.
Total Heating Surface of Boilers 4670 Is Forced Draft fitted NO No. and Description of Boilers Scotch Single Ended
Working Pressure 190 Tested by hydraulic pressure to 285 lbs. Date of test SEPT 12 1918 No. of Certificate 14
Can each boiler be worked separately Yes Area of fire grate in each boiler 67.5 No. and Description of Safety Valves to each boiler One twin 3" spring loaded Area of each valve 7.74 Pressure to which they are adjusted 190 lbs. Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 15'0" Length 11'0" Material of shell plates Steel L.S.R.
Thickness 1.5 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged NO Descrip. of riveting: cir. seams Butt straps 21 X 1.156
long. seams 5 Rivets to Circle Diameter of rivet holes in long. seams 1/2 Pitch of rivets 10" X 5" Lap of plates or width of butt straps 21 X 1.156
Per centages of strength of longitudinal joint rivets 87.526 Working pressure of shell by rules 217.93 Size of manhole in shell 12 X 16
Size of compensating ring 2'9" X 2'9" X 1.5 No. and Description of Furnaces in each boiler 3 Morrison each Material Steel Outside diameter 49.8125
Length of plain part 8.8125 Thickness of plates .651 Description of longitudinal joint Welded No. of strengthening rings ✓
Working pressure of furnace by the rules 218.9 Combustion chamber plates: Material Steel Thickness: Sides, 6.25 Back, 7.75 Top, 5.62 Bottom, 6.25
Pitch of stays to ditto: Sides 6.875 Back 6.875 Top 7 X 7.5 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 192
Material of stays Steel Area at smallest part 1.26 Area supported by each stay 52.5 sq. in. Working pressure by rules 208 End plates in steam space: Material Steel Thickness 1.217 Pitch of stays 5" X 6.5 How are stays secured single nuts Working pressure by rules 206.4 Material of stays Steel
Area at smallest part 4.909 Area supported by each stay 24.75 Working pressure by rules 206 Material of Front plates at bottom Steel
Thickness 8/25 Material of Lower back plate Steel Thickness 6.875 Greatest pitch of stays 6.875 X 13.5 Working pressure of plate by rules 194.4
Diameter of tubes 3.25 Pitch of tubes 9.25 X 9.25 Material of tube plates Steel Thickness: Front, 7.75 Back, 7.8125 Mean pitch of stays 11"
Pitch across wide water spaces 13.75 Working pressures by rules 194.4 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8.625 X 1.5 Length as per rule 30" Distance apart 7.5 Number and pitch of stays in each 3 X 7
Working pressure by rules 220 Steam dome: description of joint to shell % of strength of joint
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____



4100-85598-0044

IS A DONKEY BOILER FITTED? *No* ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— *Two connecting rod top end bolts and nuts, two connecting rod bottom end bolts and nuts. Two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, one set of piston springs, one quantity of assorted bolts and nuts, iron of various sizes with following additions. 10 gauge glasses for main boilers, one set of air pump valves, 1 set circulating pump valves, one set feed pump valves, 4 patent strays for main boiler, one spare propeller, 25 condenser pipe tubes, and 12 boiler tubes.*

The foregoing is a correct description,

Port Arthur Shipbuilding Co. Limited.

J. Stange
General Manager

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - - }

AUG. 15. SEPT. 20 OCT 22 1918

Is the approved plan of main boiler forwarded herewith *No* ✓

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods
Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller *SEPT 1918*
Stern tube *10-4-18* Steam pipes tested *10-19-18* Engine and boiler seatings *SEPT 27-18* Engines holding down bolts
Completion of pumping arrangements *10-29-18* Boilers fixed *Oct 8-18* Engines tried under steam *Oct 26-18*
Completion of fitting sea connections *10-3-18* Stern tube *10-4-18* Screw shaft and propeller *Oct 5-18*
Main boiler safety valves adjusted *Oct 27-18* Thickness of adjusting washers *1/2"*
Material of Crank shaft *Steel* Identification Mark on Do. *LR. 1161, 1124* Material of Thrust shaft *Steel* Identification Mark on Do. *LR. 1200*
Material of Tunnel shafts *Steel* Identification Marks on Do. *1176, 1229, 1145* Material of Screw shafts *Steel* Identification Marks on Do. *LR. 1144*
Material of Steam Pipes *Steel* Test pressure *510 LBS*
Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓
Have the requirements of Section 49 of the Rules been complied with ✓
Is this machinery duplicate of a previous case *No* ✓ If so, state name of vessel ✓

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

These engines and boilers have been built under special survey with the rules and approved plans.

*The workmanship and materials are good and the engines and boilers will be eligible in my opinion to receive the notation *LMC 10.18*

It is submitted that this vessel is eligible for THE RECORD. + LMC. 10.18.

JWD. 10/1/19. JRS

Thomas MacLachlan
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... *£ 15 : 00* : When applied for,
Special ... *£ 165 : 00* : *NOV 21 1918*
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : *NOV 21 1918*

Committee's Minute

Assigned

MACHINERY TESTED + WRITTEN

PAID 18/11/19

LMC 10.18



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Lloyd's Register Foundation

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

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