

REPORT ON MACHINERY.

No. 25845

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Date of writing Report 1913 When handed in at Local Office 29. 1. 1913. Port of Hull. Date, First Survey Oct. 31. 1912 Last Survey Jan 24. 1913 (Number of Visits 23)

No. in Survey held at Hull. Reg. Book. 41 sub. on the Hull S.C.K. "NEPTUNIAN." Master Built at Hull By whom built Lockhart & Sons Ltd. Tons Gross 315 Net 126 When built 1913.

Engines made at } By whom made Messrs Charles D. Adams & Co. Ltd. when made 1913. Boilers made at Hull. By whom made Messrs Charles D. Adams & Co. Ltd. when made 1913. Registered Horse Power Owners Tugline Steam Towing Co. Ltd. Port belonging to Hull.

Nom. Horse Power as per Section 28 84. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No. No. of Cylinders 3 No. of Cranks 3

ENGINES, &c.—Description of Engines Triple Expansion. Dia. of Cylinders 15"-23"-34" Length of Stroke 26" Revs. per minute 7.88 as per rule. 7.88 Material of screw shaft as fitted 8" Dia. of screw shaft as fitted 8" Material of screw shaft

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 Yes. If two liners are fitted, is the shaft lapped or protected between the liners Yes.

Dia. of Tunnel shaft as per rule 7.88 Dia. of Crank shaft journals as per rule 4.392 Dia. of Crank pin 4 1/2" Size of Crank webs 5 x 11 1/2" Dia. of thrust shaft under collars 1/2" Dia. of screw 9-4 1/2" Pitch of Screw 11-6" No. of Blades 4 State whether moveable No Total surface 33.45 ft

No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 16" Can one be overhauled while the other is at work No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 16" Can one be overhauled while the other is at work No. of Donkey Engines 1 Sizes of Pumps 6" x 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" on forward & one aft. In Holds, &c. One 2" 1/2 aft. Each well, one 2" 1/2 for each well, one 2" 1/2 main hold & one 2" 1/2 for hold. Equal suction from all parts with discharge on deck. No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 2 1/2" equal

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 No. Are all connections with the sea direct on the skin of the ship Yes. Are they Valves or Cocks Both.

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 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 Hold suction. How are they protected Wood casing. 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. Dates of examination of completion of fitting of Sea Connections 8.11.12 of Stern Tube 8.11.12 Screw shaft and Propeller 8.11.12

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from No. BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Cylindrical Iron & Steel Works, Middlesbrough.

Total Heating Surface of Boilers 1350 ft Is Forced Draft fitted No. No. and Description of Boilers One of mult. simple m.d.d. Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 24.12.12 No. of Certificate 1952

Can each boiler be worked separately Area of fire grate in each boiler 5.8 ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 4.9 sq. Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Ex. Mean dia. of boilers 14-0" Length 10-8" Material of shell plates S. Thickness 1/4" Range of tensile strength 28 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams 10.9 x 2.

long. seams 8.5 x 9 Diameter of rivet holes in long. seams 1/4" Pitch of rivets 8 1/16" Lap of plates or width of butt straps 14 1/2" Per centages of strength of longitudinal joint rivets 90.99 Working pressure of shell by rules 202 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 4" x 1 1/4" No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 40" Length of plain part top 6-5" Thickness of plates crown 3 1/2" Description of longitudinal joint Weld. No. of strengthening rings 0

Working pressure of furnace by the rules 202 lbs. Combustion chamber plates: Material S. Thickness: Sides 13" Back 23" Top 23" Bottom 23" Pitch of stays to ditto: Sides 9" x 8 1/4" Back 2 1/2" x 8" Top 10 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads No. Working pressure by rules 203 lbs. End plates in steam space:

Material of stays S. Diameter at smallest part 2.4" Area supported by each stay 101 sq. Working pressure by rules 203 lbs. Material of stays S. Thickness 1/16" Pitch of stays 20" x 20" How are stays secured Rivets. Working pressure by rules 205 lbs.

Area Diameter at smallest part 7/16" Area supported by each stay 400 sq. Working pressure by rules 205 lbs. Material of Front plates at bottom S. Thickness 15/16" Material of Lower back plate S. Thickness 29" Greatest pitch of stays 4 3/4" x 8" Working pressure of plate by rules 202 lbs.

Diameter of tubes 3 1/2" Pitch of tubes 5" x 5 1/8" Material of tube plates S. Thickness: Front 7/16" Back 8" Mean pitch of stays 10 9/16" Pitch across wide water spaces 14" x 1 1/2" Working pressures by rules 314 lbs. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 1 1/2" - 1 3/4" Length as per rule 3-1 1/2" Distance apart 10 9/16" Number and pitch of stays in each 3.8 1/2"

Working pressure by rules 204 lbs. Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened 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

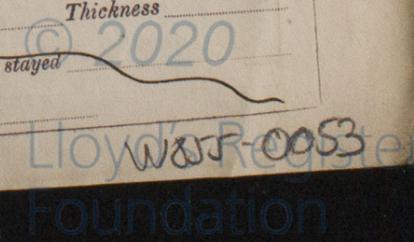
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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with casing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile 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 _____ Plates _____

Working pressure of shell by rules _____ 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 _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each fuel & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,
 p. pro **CHARLES D. HOLMES & Co** Manufacturer.

Arthur Holmes DIRECTOR. 1912:— Oct. 31. Nov 8. 13. 15. 19. 21. 26. 28. Dec 2. 4. 6. 10. 17. 18. 24. 30— 1913:—

Dates of Survey while building: During progress of work in shops — — — — —
 During erection on board vessel — — — — —
 Total No. of visits 23.

Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders *4.12.12* Slides *24.12.12* Covers *24.12.12* Pistons *14.12.12* Rods *14.12.12*
 Connecting rods *20.12.12* Crank shaft *4.12.12* Thrust shaft *24.12.12* Tunnel shafts ✓ Screw shaft *3.10.12* Propeller *3.10.12*
 Stern tube *3.10.12* Steam pipes tested *13.1.13* Engine and boiler seatings *8.11.12* Engines holding down bolts *7.1.13*
 Completion of pumping arrangements *20.1.13* Boilers fixed *16.1.13* Engines tried under steam *16.1.13*
 Main boiler safety valves adjusted *21.1.13* Thickness of adjusting washers *Forward 5/16" aft 5/16"*
 Material of Crank shaft *Iron* Identification Mark on Do. *Nº 9907.6.2* Material of Thrust shaft *Steel* Identification Mark on Do. *Nº 9907.6.7*
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *Nº 9907.6.8*
 Material of Steam Pipes *Solid drawn copper* ✓ Test pressure *400 lbs. per square inch pressure.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engine & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engine secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of 'L.L.C. 1.13' in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + LMC 1.13.

J.W.D. 8/2/13

Arthur Holmes
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1 : 0 :
 Special .. £ 12 : 12 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : 8/2 :
 When applied for, 7.2.13
 When received, 28/2/13

Committee's Minute TUE. FEB. 11. 1913

Assigned *Holmes 113*

MACHINERY CERTIFICATE



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