

Rpt. 4.

REPORT ON MACHINERY.

No. 29314

Date of writing Report 10th Sept 1910 When handed in at Local Office 10 Port of Glasgow
 No. in Survey held at Coatbridge & Glasgow Date, First Survey 16th May 1910 Last Survey 9th Sept 1910
 Reg. Book. S/S "BRENTHAM" (Number of Visits 247)
 Master A. Campbell Built at Glasgow By whom built Thackie & Thomson (N^o 397) Tons { Gross 824.54
 Engines made at Coatbridge By whom made W. V. V. Ridgerwood Esq. (N^o 339) when made 1910 Net 370.75
 Boilers made at Glasgow By whom made Lindsay, Burnett & Co (N^o 1268) when made 1910
 Registered Horse Power 136 Owners Messrs Paton & Hendry Port belonging to Glasgow
 Nom. Horse Power as per Section 28 136 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple Expansion, S. Condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 17"-27"-44" Length of Stroke 30" Revs. per minute 90 Dia. of Screw shaft 9 1/4" Material of screw shaft iron
 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 ✓ 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 ✓ Length of stern bush 3'-6"
 Dia. of Tunnel shaft 8 3/4" Dia. of Crank shaft journals 8 3/4" Dia. of Crank pin 8 3/4" Size of Crank webs 17 1/2" Dia. of thrust shaft under collars 8 3/4" Dia. of screw 10-9" Pitch of Screw 11-0" No. of Blades 4 State whether moveable No Total surface 44 1/2"
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two Sizes of Pumps 7" x 7" x 8" & 6" x 4 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3-2 1/2" bore In Holds, &c. 2-2" bore

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 yes, 2 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 none
 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 none How are they protected ✓
 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 and of Stern Tube and Screw shaft and Propeller 3.8.10.
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record and) Manufacturers of Steel and
 Total Heating Surface of Boilers 2503 1/2 Is Forced Draft fitted No No. and Description of Boilers 1 single ended marine
 Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs Date of test 3.8.10. No. of Certificate 10523.
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 8-29" No. and Description of Safety Valves to each boiler 1 double spring loaded Pressure to which they are adjusted 165 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7'-10" Mean dia. of boilers 7'-10" Length 7'-10" Material of shell plates ✓
 Thickness ✓ Range of tensile strength ✓ Are the shell plates welded or flanged ✓ Descrip. of riveting: cir. seams ✓
 long. seams ✓ Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓ Lap of plates or width of butt straps ✓
 Per centages of strength of longitudinal joint ✓ Working pressure of shell by rules ✓ Size of man hole in shell ✓
 Size of compensating ring ✓ No. and Description of Furnaces in each boiler ✓ Material ✓ Outside diameter ✓
 Length of plain part ✓ Thickness of plates ✓ Description of longitudinal joint ✓ No. of strengthening rings ✓
 Working pressure of furnace by the rules ✓ Combustion chamber plates: Material ✓ Thickness ✓ Sides ✓ Back ✓ Top ✓ Bottom ✓
 Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ If stays are fitted with nuts or riveted heads ✓ Working pressure by rules ✓
 Material of stays ✓ Diameter at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ End plates in steam space: ✓
 Material ✓ Thickness ✓ Pitch of stays ✓ How are stays secured ✓ Working pressure by rules ✓ Material of stays ✓
 Diameter at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ Material of Front plates at bottom ✓
 Thickness ✓ Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
 Diameter of tubes ✓ Pitch of tubes ✓ Material of tube plates ✓ Thickness: Front ✓ Back ✓ Mean pitch of stays ✓
 Pitch across wide water spaces ✓ Working pressures by rules ✓ Girders to Chamber tops: Material ✓ Depth and thickness 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 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 ✓

002138-002150-0224

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 easing 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 connecting rod top end + 2 bottom end bolts + nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set each of feed + bilge pump valves, also 1 set each of air + circulating pump valves, a quantity of assorted bolts + nuts, iron of various sizes, + 2 feed check valves + seats.*

The foregoing is a correct description,

For W. V. V. Lidgerwood Manufacturer. *R Sneddon*

Dates of Survey while building { During progress of work in shops - - 1910 May 16. 21. 27. 30 June 6. 16. 27. 29. July 5. 12. 25. 26. 29. 30
During erection on board vessel - - Aug. 1. 3. 10. 12. 16. 20. 22. 25. Sep 7. 9.
Total No. of visits 24.

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

Dates of Examination of principal parts—Cylinders 27.5.10. Slides 12.7.10. Covers 12.7.10. Pistons 12.7.10. Rods 29.6.10.
Connecting rods 1.8.10. Crank shaft 27.6.10. Thrust shaft 29.7.10. Tunnel shafts *none*. Screw shaft 29.7.10. Propeller 29.7.10.
Stern tube 29.7.10. Steam pipes tested 22.8.10. Engine and boiler seatings 3.8.10. Engines holding down bolts 16.8.10.
Completion of pumping arrangements 9.9.10. Boilers fixed 7.9.10. Engines tried under steam 9.9.10.
Main boiler safety valves adjusted 7.9.10. Thickness of adjusting washers *Both 5/16" thick.*
Material of Crank shaft *Steel* Identification Mark on Do. 339. Material of Thrust shaft *Steel* Identification Mark on Do. 339.
Material of Tunnel shafts *none* Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. 339.
Material of Steam Pipes *Copper* ✓ Test pressure 350 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. *The workmanship + materials are good: The engines + boiler have been built under special survey, fitted on board + satisfactorily tried under steam.*

The machinery of this vessel is eligible in our opinion for the notation + L.M.C. 9.10. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9.10.

The amount of Entry Fee .. £ 2 : - : When applied for, 10/11/10
Special .. £ 20 : 8 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : : When received, 1.10.10

Committee's Minute

Assigned

GLASGOW 20 SEP 1910

+ L.M.C. 9.10

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



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Form No. 1A.
The Surveyors are requested not to write on or below the space for Committee's Minute.
Certificate (if required) to be sent to
10-9-10.