

REPORT ON MACHINERY.

Received at London Office 3 AUG 1917

Date of writing Report in When entered in at Local Office 2.8.17 19 Port of Middlesbrough
 No. in Survey held at Stockton Date, First Survey 1st Nov. 16 Last Survey 27th July 1917
 Reg. Book. on the Steel Screw Steamer "Thistlemore" (Number of Visits 70) (S.S. No. 558) Tons { Gross 6506 Net 4140
 Master E. W. Barry Built at W. Hartlepool By whom built Messrs Swin's S.B. & D.D. Co When built 1917
 Engines made at Stockton By whom made Messrs Blair & Co Lim. (No 1833) when made 1917
 Boilers made at Stockton By whom made Messrs Blair & Co Lim. when made 1917
 Registered Horse Power 686 Owners Furness Withy & Co Lim Port belonging to Liverpool
 Nom. Horse Power as per Section 28 687 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yk

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 29"-49"-80" Length of Stroke 54 Revs. per minute 68 Dia. of Screw shaft 16.96 Material of Eng 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 in one 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 Length of stern bush 5'-7 3/8"
 Dia. of Tunnel shaft 14.69 Dia. of Crank shaft journals 15.45 Dia. of Crank pin 16 1/4" Size of Crank webs 3 1/4" x 10 3/8" Dia. of thrust shaft under
 collars 15 3/4" Dia. of screw 18'-9" Pitch of Screw 19'-6" No. of Blades 4 State whether moveable no Total surface 117 sq ft
 No. of Feed pumps duplex Diameter of ditto 9" Stroke 21 Can one be overhauled while the other is at work yes; not on main engines
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 36 Can one be overhauled while the other is at work yes; on main engines
 No. of Donkey Engines 2 Sizes of Pumps 9" x 11" x 10" 8" x 6" x 8" 8 1/2" x 6" x 8" and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 @ 3 1/2" + 2 @ 2 1/2" in dry tank under boilers In Holds, &c. 2 @ 3 1/2" each hold + funnel well one @ 3"
 No. of Bilge Injections 1 size 10" Connected to condensers to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 5"
 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 suctions to forward holds How are they protected wood ceiling
 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 13/6/17 of Stern Tube 13/6/17 Screw shaft and Propeller 2.7.17
 Is the Screw Shaft Tunnel watertight see hull report Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Spencer & Sons Lim
Howdens
 Total Heating Surface of Boilers 10410 sq ft Is Forced Draft fitted yes No. and Description of Boilers 3 single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 31.5.17 No. of Certificate 5766
 Can each boiler be worked separately yes Area of fire grate in each boiler 81.9 sq ft No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 15.9 sq in Pressure to which they are adjusted 180 Are they fitted with easing gear yes
 Smallest distance between boilers 2'-0" Mean dia. of boilers 17'-7 1/2" Length 12'-0" Material of shell plates steel
 Thickness 1 1/2" Range of tensile strength 29-32 3/8 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 R. lap
 long. seams 2 R. 3 Riv Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 22 3/8" x 1 1/2"
 Per centages of strength of longitudinal joint rivets 89.0 Working pressure of shell by rules 210 Size of manhole in shell 16" x 12"
 plate 85.14 Size of compensating ring 9" x 1 1/2" No. and Description of Furnaces in each boiler 4 Morrison Material Steel Outside diameter 46 1/2"
 Length of plain part top Thickness of plates bottom 5/8" Description of longitudinal joint weld No. of strengthening rings yes
 Working pressure of furnace by the rules 200 Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 5/8" Top 1/4" Bottom 7/8"
 Pitch of stays to ditto: Sides 7 3/4" x 7 3/8" Back 7 3/8" x 7 1/2" Top 8" x 7 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 227
 Material of stays Steel Diameter at smallest part 1.69 Area supported by each stay 62 Working pressure by rules 218 End plates in steam space
 Material Steel Thickness 1 3/8" Pitch of stays 18 1/2" x 17 1/2" How are stays secured nuts & washers Working pressure by rules 225 Material of stays steel
 Diameter at smallest part 7.87 Area supported by each stay 344 Working pressure by rules 237 Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 1 1/2" Greatest pitch of stays 14 1/2" x 7 5/8" Working pressure of plate by rules 216
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1" Back 2 1/32" Mean pitch of stays 9 5/8"
 Pitch across wide water spaces 13 3/4" Working pressures by rules 189 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8 1/2" x 2" Length as per rule 34 Distance apart 8" Number and pitch of stays in each 3 @ 7 3/4"
 Working pressure by rules 201 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked
 separately yes 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

IS A DONKEY BOILER FITTED? no. If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two Each Top End, Bottom End & Main Bearings
both nuts, one set of coupling both one set ridge pump valves.
one shut off & one check valve for main feed & also for donkey feed check
one set air pump head valve, one set of independent feed pump valves.
one propeller & one propeller shaft, 2 safety valve springs, 50 condenser
tubes assorted both nuts & ram.

The foregoing is a correct description,
FOR BLAIR & CO., LIMITED.

Geo Nettleship
 SECRETARY

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1916 Nov 1. 3. 7. 9. 15. 17. 1917 Jan 30. Feb 12. 21. 26. 28. March 5. 6. 8. 12. 16. 19. 22. 26. Apr 2. 5. 6. 11. 13. 16. 17
 { During erection on board vessel --- } 19. 21. 24. 25. 26. 27. 30. May 2. 4. 8. 10. 11. 14. 16. 17. 18. 21. 24. 25. 31. June 1. 4. 6. 7. 8. 11. 13. 15. 17. 21. July 2
 { Total No. of visits } at West rpt. June 13. Sep 19. 26. 29. Oct 3.
 Is the approved plan of main boiler forwarded herewith yes
 " " " donkey " " " none

Dates of Examination of principal parts—Cylinders 14. 5. 17 Slides 21. 5. 17 Covers 24. 4. 17 Pistons 24. 5. 17 Rods 24. 5. 17
 Connecting rods 1. 6. 17 Crank shaft 14. 5. 17 Thrust shaft 16. 4. 17 Tunnel shafts 19/3/17 Screw shaft 14. 5. 17 Propeller 19. 6. 17
 Stern tube 7. 6. 17 Steam pipes tested 14. 28. 3. 17 Engine and boiler seatings 26/9/17 Engines holding down bolts 9. 7. 17

Completion of pumping arrangements 27. 7. 17 Boilers fixed 27. 7. 17 Engines tried under steam 27. 7. 17
 Main boiler safety valves adjusted 27. 7. 17 Thickness of adjusting washers PB s 7/16; SB s 7/16; For B s 13/32

Material of Crank shaft Eng Steel Identification Mark on Do. 7089 Material of Thrust shaft Eng Steel Identification Mark on Do. 1781. N

Material of Tunnel shafts Eng Steel Identification Marks on Do. 1781. N Material of Screw shafts Eng Steel Identification Marks on Do. 7089

Material of Steam Pipes Lap welded wrought iron Test pressure 540 lbs

Is an installation fitted for burning oil fuel no 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 yes If so, state name of vessel S.S. Bay State, Indb Rpt 8817

General Remarks (State quality of workmanship, opinions as to class, &c. To complete the survey the spare gear
requires to be examined and the hold sections completed. It is stated that this will be
done at Hartlepool. The surveyors have been advised

The machinery of this vessel has been built under special survey. The materials and
workmanship are sound and good. The boilers were tested by hydraulic pressure and the engines
and boilers examined under steam and all found satisfactory

The machinery is now in a good and safe working condition and renders the vessel eligible
in my opinion to have the notation of $\frac{7}{8}$ LMC 10/17 with a date when the survey is complete

The Electric Light installation has now been fitted & worked well, also
provision has been by outside valves for discharging into carriage of oil in deep
Tank & also cellular double bottom.

It is submitted that
 this vessel is eligible for
THE RECORD. + LMC 10.17. F.D.

The amount of Entry Fee ... £ 3 - 0 - 0 When applied for,
 Special ... £ 54 - 7 - 0 2/8/1917
 Donkey Boiler Fee ... £ ✓
 Travelling Expenses (if any) £ ✓ 4/8/17

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

Committee's Minute TUE. OCT. 30 1917.

Assigned + LMC 10.17

MACHINERY & EQUIPMENT WRITTEN.

