

REPORT ON MACHINERY

No. 70283
SAT. SEP. 29 1917

Received at London Office

Date of writing Report 21st August 17 When handed in at Local Office 10 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Newcastle Date, First Survey 5th Jan 1916 Last Survey 21st Aug 1917
 Reg. Book. on the "British Ensign" (Number of Vents 89) Tons { Gross 7048
 Net 4390

Master Built at Newcastle By whom built W. J. Armstrong Whitworth & Co When built 1917

Engines made at Newcastle By whom made N. & Maine Eng. Co. No. 2244 when made 1917

Boilers made at London By whom made London when made 1917

Registered Horse Power Owners British Tanker Co. Ltd. Port belonging to London

Nom. Horse Power as per Section 28 618 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27" 45" 74" Length of Stroke 54" Revs. per minute 68 Dia. of Screw shaft as per rule 15.48" Material of 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 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 Length of stern bush 5' - 5 3/4"
 Dia. of Tunnel shaft as per rule 13.95" Dia. of Crank shaft journals as per rule 14.64" Dia. of Crank pin 15" Size of Crank webs 2 3/4" x 9 1/2" Dia. of thrust shaft under
 collars 15" Dia. of screw 18' - 9" Pitch of Screw 18' - 0" No. of Blades 4 State whether moveable Yes Total surface 100 sq
 No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 8" x 5 1/2" x 8", 6" x 8" x 8", 7" x 5" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3 1/2" In Holds, &c. Oil vessel

No. of Bilge Injections 1 sizes 10 Connected to condenser or to circulating pump Yes 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 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 stowholes plates Yes Are the Discharge Pipes above or below the deep water line Both
 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 Oil vessel 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
 Dates of examination of completion of fitting of Sea Connections 8.5.17 of Stern Tube 22.5.17 Screw shaft and Propeller 26.6.17
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record R) Manufacturers of Steel J. Spence & Sons

Total Heating Surface of Boilers 9639 sq Is Forced Draft fitted Yes No. and Description of Boilers 3 Single-ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 52.50.3.17 No. of Certificates 2-8951
 Can each boiler be worked separately Yes Area of fire grate in each boiler 68 sq No. and Description of Safety Valves to
 each boiler Two, Spring Area of each valve 11.04 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 22" Mean dia. of boilers 16' - 6 1/2" Length 12' - 0" Material of shell plates Steel
 Thickness 1 1/4" Range of tensile strength 29 3/4 - 33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 8. Lap
 long. seams ABS & Res. Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 1/4" Lap of plates or width of butt straps 19 3/8"
 Per centages of strength of longitudinal joint rivets 87.03 Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"
 plate 85.8 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 4 Slightone Material Steel Outside diameter 44 1/2"
 Length of plain part top 17 1/2" Thickness of plates bottom 17 1/2" Description of longitudinal joint Welded No. of strengthening rings Yes
 Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 15/16"
 Pitch of stays to ditto: Sides 10 1/2" x 9" Back 10 1/2" x 9" Top 10 1/2" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 186 lbs
 Material of stays Iron Diameter at smallest part 2.36" Area supported by each stay 94.5 sq Working pressure by rules 187 lbs End plates in steam space:
 Material Steel Thickness 1 5/32" Pitch of stays 19 1/2" x 17 1/2" How are stays secured By nuts Working pressure by rules 185 lbs Material of stays Steel
 Diameter at smallest part 5.94" Area supported by each stay 341 Working pressure by rules 181 lbs Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 29/32" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 195 lbs
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates Steel Thickness: Front 1" Back 13/16" Mean pitch of stays 7 1/2"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 182 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 34" Distance apart 9" Number and pitch of stays in each 2-10 1/2"
 Working pressure by rules 187 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint 20" Diam. of rivet
 holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

W568 0063

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—

Two top end, two bottom end & two main bearing bolts & nuts, a set of coupling bolts a set of feed & bilge pump valves, a quantity of assorted bolts nuts & iron, a screw shaft, two propeller blades, a slide valve spindle, an eccentric strap.

The foregoing is a correct description,
FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

J. Harrison
Secretary

Manufacturer.

Dates of Survey while building
During progress of work in shops - *29 Oct. 3. 4. 6. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Dec. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Jan. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Feb. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Mar. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Apr. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. May 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Jun. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Jul. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Aug. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Sep. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Oct. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Nov. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Dec. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 1916.*
During erection on board vessel - *2. 5. 6. 7. 8. 9. 12. 14. 15. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Apr. 4. 12. 13. 17. 18. 19. 24. May 8. 11. 22. Jun. 18. 22. 26. Jul. 1. 17.*
Total No. of visits *89*

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

" " " donkey " " " *✓*

Dates of Examination of principal parts—Cylinders *25-9-16* Slides *17-4-17* Covers *12-7-16* Pistons *20-9-16* Rods *10-3-16*

Connecting rods *10-3-16* Crank shaft *3-10-16* Thrust shaft *13-10-16* Tunnel shafts *23-2-17* Screw shaft *12-12-16* Propeller *3-3-17*

Stern tube *27-2-17* Steam pipes tested *23-7-17* Engine and boiler seatings *17-4-17* Engines holding down bolts *25-7-17*

Completion of pumping arrangements *26-7-17* Boilers fixed *25-7-17* Engines tried under steam *26-7-17*

Main boiler safety valves adjusted *26-7-17* Thickness of adjusting washers PB. $F\frac{9}{32}$ A $\frac{11}{32}$ SB. $F\frac{13}{32}$ A $\frac{7}{16}$ FB. $F\frac{13}{32}$ A $\frac{3}{8}$

Material of Crank shaft *Steel* Identification Mark on Do. *LX 10-16* Material of Thrust shaft *Steel* Identification Mark on Do. *LX 10-16*

Material of Tunnel shafts *Steel* Identification Marks on Do. *LX 2-17* Material of Screw shafts *Iron* Identification Marks on Do. *LX 12-16*

Material of Steam Pipes *Iron & copper* Test pressure *540 lbs + 360 lbs*

Is an installation fitted for burning oil fuel *yes* Is the flash point of the oil to be used over 150°F. *yes*

Have the requirements of Section 49 of the Rules been complied with *yes*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *British Princess*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boilers of this vessel have been constructed under special survey & the materials and workmanship are found to be good. The engines have been tried under steam and the boiler safety valves adjusted at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of +LMC 8-17, fitted for oil fuel F.P. above 150°F.*

A report on the electric installation will be forwarded when received from the Electrician.

THE RECORD + LMC 8-17 F.D.

Fitted for oil fuel 8-17 F.P. above 150°F.

The amount of Entry Fee ... £ 3 : 0 : 0

Special ... £ 50 : 10 : 0

Donkey Boiler Fee *✓*

Travelling Expenses (if any) £

Committee's Minute

Assigned

When applied for

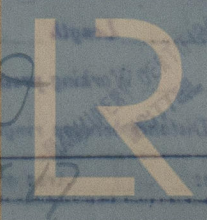
28 SEP 1917

When received

10/10/17

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

Thomas Field



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