

REPORT ON MACHINERY.

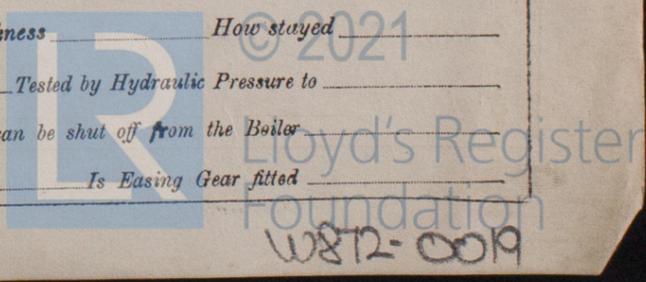
Received at London Office SAT. - 7 APR. 1917

Date of writing Report 19 When handed in at Local Office 30.3.17 10 Port of Middlesbrough
 No. in Survey held at Stockton-on-Tees Date, First Survey 19th Jan 1916 Last Survey 27th March 1917
 Reg. Book. on the Steel Screw Steamer IKEDA (Number of Visits S.S. N^o 650) Tons } Gross 6311
 } Net 4761
 Master H. McNeegg Built at Stockton By whom built Richardson Duck & Co When built 1917
 Engines made at Stockton By whom made Messrs Blair & Co Ltd (N^o 1837) when made 1917
 Boilers made at Stockton By whom made Messrs Blair & Co Ltd when made 1917
 Registered Horse Power Owners The Union Steamship Co of British Columbia Ltd Port belonging to Liverpool & Wintons
 Nom. Horse Power as per Section 28 409 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26-42-70 Length of Stroke 48 Revs. per minute 64 Dia. of Screw shaft as per rule 14.48 Material of Eng Steel
 as fitted 15.74 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 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 tight fit If two
 liners are fitted, is the shaft lapped or protected between the liners. Length of stern bush 5'-4"
 Dia. of Tunnel shaft as per rule 12.98 Dia. of Crank shaft journals as per rule 13.63 Dia. of Crank pin 14.7 Size of Crank webs 28 1/2 x 9 1/2 Dia. of thrust shaft under
 collars 14 3/4 Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moceable no Total surface 100 sq
 No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 34 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 5 Stroke 34 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps Ballast 7x10 Feed 7x10 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 3 1/2 In Holds, &c. 2 @ 3 1/2 each hold except aftermost when
3 @ 3 Turned well one @ 2 1/2
 No. of Bilge Injections 1 sizes 7 Connected to condenser or circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 4"
 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 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
 Is the Screw Shaft Tunnel watertight see hull Rpt Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (3)) Manufacturers of Steel Messrs John Spencer & Sons Ltd
 Total Heating Surface of Boilers 6851 Is Forced Draft fitted no No. and Description of Boilers 3 single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 26.9.16 No. of Certificate 5687
 Can each boiler be worked separately yes Area of fire grate in each boiler 64.4 sq No. and Description of Safety Valves to
 each boiler 2 direct Spring Area of each valve 8.29 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 2'-3" Mean dia. of boilers 15'-9" Length 10'-6" Material of shell plates Steel
 Thickness 1 1/4 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2-R. lap
 long. seams 2-B-3 Riv Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9 1/8 Lap of plates or width of butt straps 19 5/8 x 1 3/16
 Per centages of strength of longitudinal joint rivets 88.1 Working pressure of shell by rules 182 Size of manhole in shell 16" x 12"
 plate 85.62 Size of compensating ring 7 5/8 x 1 1/2 No. and Description of Furnaces in each boiler 3 Brighton Material Steel Outside diameter 49 7/8
 Length of plain part top 19 Thickness of plates crown 19 Description of longitudinal joint Weld No. of strengthening rings 1
 bottom 32 Working pressure of furnace by the rules 184 Combustion chamber plates: Material Steel Thickness: Sides 1 1/2 Back 1 1/2 Top 1 1/2 Bottom 1
 Pitch of stays to ditto: Sides 8 1/2 x 9 3/4 Back 9 1/2 x 9 1/2 Top 10 1/2 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181
 Material of stays Steel Area at smallest part 1.99 Area supported by each stay 90.25 Working pressure by rules 198 End plates in steam space:
 Material Steel Thickness 1 1/2 Pitch of stays 21 x 21 How are stays secured nuts & 9x1 washers Working pressure by rules 185 Material of stays Steel
 Area at smallest part 7.85 Area supported by each stay 441 Working pressure by rules 185 Material of Front plates at bottom Steel
 Thickness 1 1/2 Material of Lower back plate Steel Thickness 1 1/2 Greatest pitch of stays 14 1/2 x 9 1/2 Working pressure of plate by rules 232
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 1 1/2 Back 1 1/2 Mean pitch of stays 10 3/8
 Pitch across wide water spaces 14 1/4 Working pressures by rules 187 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 3/4 x 1 3/8 Length as per rule 29 1/2 Distance apart 10 1/2 Number and pitch of stays in each 2 @ 8 1/4
 Working pressure by rules 183 Steam dome: description of joint to shell none % 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 _____



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two each of con. rod top end, bottom end and main bearing bolts and nuts; one set of coupling bolts and nuts; one set of feed and bilge pump valves; assorted bolts and nuts iron of various sizes; one cast iron propeller and minor gear

The foregoing is a correct description,

FOR BLAIR & Co., LIMITED.

Sw Nettushyp

Manufacturer.

SECRETARY 1916. Jan 19. 26. 28. Feb 10. 21. 23. 25. Mar 10. 20. 23. 27. 29. 31. Apr 7. 10. 12. 19. 28. May 2. 21. 28. 30. July 3. 6. 7. 11. 14. 21. 26. 28. Aug 3. 4. 7. 8. 9. 10. 11. 15. 17. 22. 24. Sep 1. 11. 13. 18. 20. 26. Oct 2. 3. 5. 10. 12. 14. 17. 19. 20. 23. 26. 30. Nov 1. 3. 7. 8. 9. 13. 15. 17. 20. 21. 22. 23. 25. 27. 28. 30. Dec 1. 14. 1917. Jan 12. 17. 24. 26. 29. Feb 9. 12. 15. 19. Mar 5. 9. 13. 16. 21. 24. 26. 27

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

9th. Is the approved plan of main boiler forwarded herewith *yes*
" " " donkey " *no*

Dates of Examination of principal parts—Cylinders 10. 10. 16 Slides 10. 10. 16 Covers 17. 10. 16 Pistons 10. 10. 16 Rods 23. 10. 16
Connecting rods 17. 10. 16 Crank shaft 19. 10. 16 Thrust shaft 30. 10. 16 Tunnel shafts ^{Between} 4/5/16 10/10/16 Screw shaft 17. 11. 16 Propeller 20. 11. 16
Stern tube 21. 11. 16 Steam pipes tested *4/5 18/10/16* Engine and boiler seatings 21. 11. 16 Engines holding down bolts 12. 2. 17
Completion of pumping arrangements 26. 3. 17 Boilers fixed 9. 3. 17 Engines tried under steam 9. 3. 17
Completion of fitting sea connections 14. 12. 16 Stern tube 14. 12. 16 Screw shaft and propeller 17. 1. 17
Main boiler safety valves adjusted 9. 3. 17 Thickness of adjusting washers P. B. lrs $\frac{1}{32}$ P. $\frac{1}{4}$ EV - $\frac{9}{32}$
Material of Crank shaft *Ing Steel* Identification Mark on Do. 7056 Material of Thrust shaft *Ing Steel* Identification Mark on Do. 1649-N
Material of Tunnel shafts *Ing Steel* Identification Marks on Do. 1649-N Material of Screw shafts *Ing Steel* Identification Marks on Do. 7056
Material of Steam Pipes *Lap welded steel* 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. "Indianola", Indb Rpt 7200*

General Remarks (State quality of workmanship, opinions as to class, &c. *Through a mistake the bilge suction valves for the deep tank were made "lifting" instead of "non-return", as required by the approved pumping plan. As time would not allow alterations to be made and as sea water cannot enter the tank through these valves, the arrangement now fitted is submitted for favourable consideration.*
The machinery of this vessel has been built under special survey. The materials & workmanship are sound and good. The boilers and steam pipes 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 $\frac{1}{2}$ LMC-3.17 in the Register Book.

This vessel is fitted with Electric Light and "Wireless"

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.17.

JWD
Wm Morrison
10/4/17
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3 5 0
Special ... £ 40 9 0
Donkey Boiler Fee ... £
Travelling Expenses (if any) £

Committee's Minute WED. 11. APR. 1917
Assigned + LMC 3.17

MIDDLEBRO

Certificate (if required) to be sent to the Registrar of Shipping, the space for Committee's Minute.

MACHINERY DESCRIPTION WRITTEN

