

REPORT ON MACHINERY.

No. 13770

Received at London Office

19 JAN 1925

Date of writing Report *9th Jan.* 1925 When handed in at Local Office *16th Jan.* 1925 Port of *Aberdeen*
 No. in Survey held at *Aberdeen* Date, First Survey *9.4.24* Last Survey *8.1.1925*
 Reg. Book. on the s.s. *"DONAGHMORE"* (Number of Visits *43*) Gross *581.45*
 Tons Net *269.90*
 Master Built at *Aberdeen* By whom built *John Lewis & Sons, Ltd. (N^o 76).* When built *1925.*
 Engines made at *Aberdeen* By whom made *John Lewis & Sons, Ltd. (N^o 173).* when made *1925.*
 Boilers made at *Aberdeen* By whom made *John Lewis & Sons, Ltd. (N^o 138).* when made *1925.*
 Registered Horse Power Owners *St. Helens Colliery & Brick Works Co. Ltd.* Port belonging to *Workington*
 Nom. Horse Power as per Section 28 *105* 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 *14" - 24" - 39"* Length of Stroke *27"* Revs. per minute *90* Dia. of Screw shaft as per rule *8.11"* Material of screw shaft *Iron*
 as fitted *8.3"*

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 *fit to whole length* If two

liners are fitted, is the shaft lapped or protected between the liners *-* Length of stern bush *3'-0"*
 Dia. of Tunnel shaft as per rule *7.18"* Dia. of Crank shaft journals as per rule *7.58"* Dia. of Crank pin *7.34"* Size of Crank webs *10.2'-5.3'* Dia. of thrust shaft under
 collars *7.34"* Dia. of screw *10'-0"* Pitch of Screw *14'-0"* No. of Blades *4* State whether moveable *no* Total surface *40 ft²*

No. of Feed pumps *Two* Diameter of ditto *2.34"* Stroke *13.2"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *Two* Diameter of ditto *2.34"* Stroke *13.2"* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *Two* Sizes of Pumps *BALLAST 8" x 8" x 8" GEN. SERVICE 6" x 4" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *3 c 2.2"* In Hold, &c. *2 c 2"*

No. of Bilge Injections *One* sizes *3.2"* Connected to condenser, or to circulating pump *Pump* Is a separate Donkey Suction fitted in Engine room & size *one c 2.2"*
 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 *Bilge Suctions from Hold* How are they protected *Strong wood casings*
 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 *none* Is it fitted with a watertight door *-* worked from *-*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Wm. Beardmore & Co. Ltd.* 158.

Total Heating Surface of Boilers *1883 ft²* Is Forced Draft fitted *no* No. and Description of Boilers *One Single-Ended*
 Working Pressure *180 lbs./sq. in.* Tested by hydraulic pressure to *320 lbs./sq. in.* Date of test *17.12.24* No. of Certificate *1039*

Can each boiler be worked separately *-* Area of fire grate in each boiler *54 ft²* No. and Description of Safety Valves to
 each boiler *two spring loaded* Area of each valve *7.068 ft²* Pressure to which they are adjusted *185 lbs./sq. in.* Are they fitted with easing gear *yes*
 Smallest distance between boilers or uptakes and bunkers *on woodwork* *2'-2"* Int. Mean dia. of boilers *13'-6.34"* Length *10'-6"* Material of shell plates *Steel*

Thickness *1.5"* Range of tensile strength *28/32 tons/sq. in.* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *D. R. LAP*
 long. seams *T. R. D. B. S.* Diameter of rivet holes in long. seams *1.375"* Pitch of rivets *8.3"* Lap of plates or width of butt straps *17.34"*

Per centages of strength of longitudinal joint rivets *90.7* Working pressure of shell by rules *182 lbs./sq. in.* Size of manhole in shell *19" x 15"*
 Size of compensating ring *2'-9" x 2'-5" x 1.5"* No. and Description of Furnaces in each boiler *3 plain* Material *Steel* Outside diameter *3'-4.34"*
 Length of plain part *top 6'-6.34" bottom 5'-11.34"* Thickness of plates *crown 3.34" bottom 3.34"* Description of longitudinal joint *weld* No. of strengthening rings *none*

Working pressure of furnace by the rules *183 lbs./sq. in.* Combustion chamber plates: Material *Steel* Thickness: Sides *23/32"* Back *11/16"* Top *23/32"* Bottom *23/32"*
 Pitch of stays to ditto: Sides *9.4" x 10.34"* Back *9.8" x 10"* Top *9.4" x 10.2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *180 lbs./sq. in.*

Material of stays *Steel* Thickness *1.375"* Pitch of stays *19.2" x 18.2"* How are stays secured *By nuts & washers* Working pressure by rules *191 lbs./sq. in.* Material of stays *Steel*
 DIA. OVER THREADS Area at smallest part *3"* Area supported by each stay *360.75 ft²* Working pressure by rules *186 lbs./sq. in.* Material of Front plates at bottom *Steel*

Thickness *1.5"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *14.76" x 7"* Working pressure of plate by rules *184 lbs./sq. in.*
 Diameter of tubes *3.4"* Pitch of tubes *4.2" x 4.34"* Material of tube plates *Steel* Thickness: Front *1.32"* Back *1.375"* Mean pitch of stays *11.8"*

Pitch across wide water spaces *14.2"* Working pressures by rules *F 185 lbs./sq. in. B 192 lbs./sq. in.* End plates in steam space:
 thickness of girder at centre *9.4" x 2 c 9.9"* Length as per rule *29.2"* Distance apart *10.2"* Number and pitch of stays in each *2 c 9.4"*
 Working pressure by rules *182 lbs./sq. in.* Steam dome: description of joint to shell *No Steam Dome* % 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 *None* Date of Approval of Plan *-* Tested by Hydraulic Pressure to *2020*
 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 *-*

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Is a Report also sent on the Hull of the Ship?

If not, state whether, and when, one will be sent?

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Lloyd's Register

Foundation

IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded? -

SPARE GEAR. State the articles supplied:— Two top-end and two bottom-end bolts and nuts; two main bearing bolts and nuts; one set of coupling bolts and nuts; one set each of air, circulating, feed and bilge pump valves; one main and one donkey feed check valve; one safety valve spring; one cylinder and one feed escape valve spring for each size fitted; one propeller; six junk ring studs and nuts; six cylinder cover studs and nuts; gauge glasses and packing; a quantity of assorted bolts and nuts; iron of various sizes, and a number of small items.

The foregoing is a correct description,

FOR JOHN LEWIS & SONS, LTD.

SECT.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1924: - APRIL - 9. 25. 30. MAY - 12. 27. JUNE - 11. 20. 23. JULY - 23. 29. AUG - 6. 12. 20. 27. 28. SEP - 9. 12. 24. 30. OCT - 1. 20. 23. 27. NOV - 3. 7. 14. 17. 19. 24. 28. DEC - 5. 8. 10. 11. 18. 17.
During erection on board vessel - - - 1924: - DEC - 19. 23. 26. 31. 1925: - JAN - 6. 7. 8.
Total No. of visits 43

Is the approved plan of main boiler forwarded herewith? Yes.

" " " donkey " " " -

Dates of Examination of principal parts—Cylinders 8.12.24 Slides 8.12.24 Covers 8.12.24 Pistons 8.12.24 Rods 8.12.24
Connecting rods 8.12.24 Crank shaft 17.11.24 Thrust shaft 17.11.24 Tunnel shafts - Screw shaft 17.11.24 Propeller 17.11.24
Stern tube 17.11.24 Steam pipes tested 26.12.24 Engine and boiler seatings 5.12.24 Engines holding down bolts 23.12.24
Completion of pumping arrangements 8.1.25 Boilers fixed 23.12.24 Engines tried under steam 6.1.25 + 8.1.25
Completion of fitting sea connections 10.12.24 Stern tube 5.12.24 Screw shaft and propeller 8.12.24
Main boiler safety valves adjusted 6.1.25 Thickness of adjusting washers $\frac{3}{8}$ " $\frac{5}{8}$ "
Material of Crank shaft Steel Identification Mark on Do. LLOYD'S NE 981 J.E.S. C.E.W. 17.11.24 Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S NE 981 C.E.W. 17.11.24
Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts Iron Identification Marks on Do. LLOYD'S NE 982 C.E.W. 17.11.24
Material of Steam Pipes 90 Copper Test pressure 360 lbs./sq"

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: "ANNAGHMORE" Abn. Rpt. N° 13696.

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under Special Survey in accordance with the Rules and Approved Plans; the materials and workmanship are good. The machinery has been satisfactorily installed on board the vessel, Examined under working conditions at sea and found satisfactory, and is eligible, in our opinion, for classification, and to have the record L.M.C. 1.25 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 1.25. CL.

Report on Electric Lighting Installation will be forwarded later.

W.D. Cull
19/1/25

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for.

Special ... £ 26 : 5 : 0 16.1.1925

Donkey Boiler Fee ... £ : : When received.

Travelling Expenses (if any) £ : : 20/5/25

Committee's Minute TUES. 20 JAN 1925

Assigned + L.M.C. 1.25
C.L.

H.B. Forster + C. E. Wilkes
Engineer Surveyor to Lloyd's Register of Shipping.



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