

REPORT ON MACHINERY.

No. 25641

Received at London Office THU. APR 3-1913

Date of writing Report 19 When handed in at Local Office 24 10/13 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 19 Mar 12 Last Survey 29 Mar 1913
 Reg. Book. on the Hel S/S "Ellin" (Number of Visits 33)
 Master Goulandris Built at S. Land By whom built Short Bros Ld Tons { Gross 4575
 Engines made at Sunderland By whom made J. Dickinson & Sons Ld Net 2780
 Boilers made at " By whom made " when made 1913
 Registered Horse Power Owners J. Goulandris Port belonging to Andros when made 1913
 Nom. Horse Power as per Section 28 386 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no.

ENGINES, &c.—Description of Engines Tri. C.P.A. No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25 1/2 42 3/4 42 Length of Stroke 48 Revs. per minute 40 Dia. of Screw shaft as per rule 4 1/4 Material of screw shaft as fitted 1 1/2
 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 If two liners are fitted, is the shaft lapped for protected between the liners Length of stern bush 5 ft
 Dia. of Tunnel shaft as per rule 12 9/32 Dia. of Crank shaft journals as per rule 13 1/4 Dia. of Crank pin 13 1/8 Size of Crank webs 82 1/2 Dia. of thrust shaft under collars 13 1/8 Dia. of screw 14 1/2 Pitch of Screw 14 1/2 No. of Blades 4 State whether moveable no Total surface 96 sq
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 2 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 2 1/2 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 5 x 6 & 12 x 10 duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3 of 3 1/2 In Holds, &c. two 3 1/2 inches
 No. of Bilge Injections 1 sizes 5 Connected to condenser, or to circulating pump CP 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
 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 31.1.13 of Stern Tube 8.2.13 Screw shaft and Propeller 8.2.13
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel J. Spencer & Sons Ld.

Total Heating Surface of Boilers 5869 sq. Is Forced Draft fitted no No. and Description of Boilers two marine type
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 Date of test 13.2.13 No. of Certificate 3084
 Can each boiler be worked separately yes Area of fire grate in each boiler 81 sq. No. and Description of Safety Valves to each boiler 2 Spring Area of each valve 9.6 sq. Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 1' 6" Mean dia. of boilers 14 1/16 Length 11' 10 1/2 Material of shell plates S
 Thickness 15/16 Range of tensile strength 28.8-32. Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 x lap long. seams TR. A.B.S. Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 92 Top of plates or width of butt straps 1' 8 1/8
 Percentages of strength of longitudinal joint rivets 88.5 plate 85.5 Working pressure of shell by rules 181. Size of manhole in shell 16 x 12
 Size of compensating ring 8 3/4 x 1 7/16 No. and Description of Furnaces in each boiler 4 corrugated Material S Outside diameter 3' 11"
 Length of plain part top 19" bottom Thickness of plates crown 2 9/16 bottom 9/16 Description of longitudinal joint weld No. of strengthening rings
 Working pressure of furnace by the rules 184 Combustion chamber plates: Material S Thickness: Sides 7/16 Back 4/16 Top 7/16 Bottom 7/8
 Pitch of stays to ditto: Sides 9 x 10. Back 9 x 10. Top 9 x 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181
 Material of stays S Diameter at smallest part 1.6 Area supported by each stay 90 Working pressure by rules 203 End plates in steam space: Material S Thickness 1 1/4 Pitch of stays 18.22 How are stays secured D.N.M. Working pressure by rules 183 1/2 Material of stays S
 Diameter at smallest part 2.03 Area supported by each stay 396 Working pressure by rules 190 Material of Front plates at bottom S
 Thickness 8/8 Material of Lower back plate S Thickness 3/2 Greatest pitch of stays 132 x 9 1/2 Working pressure of plate by rules 182
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates S Thickness: Front 1 3/4 1/8 Back 7/8 Mean pitch of stays 9
 Pitch across wide water spaces 1 1/4 Working pressures by rules 288 1/2 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 3/4 x 1 1/2 x 2 Length as per rule 3 2 3/2 Distance apart 10 Number and pitch of stays in each 3 @ 9
 Working pressure by rules 184 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

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

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

Diameter. Inches.

Angles.

ft.

as at

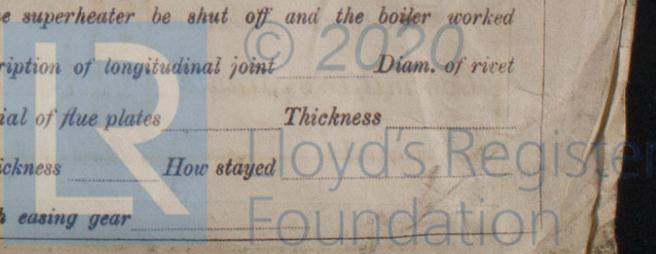
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VERTICAL DONKEY BOILER— Manufacturers of Steel

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 casing 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:— 1 set Coupling bolts & nuts, 1 set top & bottom end bolts & nuts, two main bearing bolts & nuts, one set feed and bilge pump valves two feed check, two safety valve springs, two escape valve springs, 1 set air & air pump valves, 2 valves, two ballast valves, one set of M.P. piston ring assorted iron nuts, bolts & propeller

The foregoing is a correct description,
 John Dickinson & Sons, Limited.
 Manufacturer.

Dates of Survey while building	During progress of work in shops	1912. Mar. 19. May 17. 24. Aug. 9. Oct. 9. 16. 17. 18. 25. Nov. 14. 21. 28. Dec. 5. 12. 30.
	During erection on board vessel	Jan. 9. 20. 27. 31. Feb. 6. 8. 12. 13. 24. Mar. 6. 11. 14. 17. 22. 24. 25. 27. 29.
	Total No. of visits	(33)

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

Dates of Examination of principal parts—Cylinders	16. 10. 12	Slides	9. 8. 12	Covers	19. 11. 12	Pistons	21. 11. 12	Rods	21. 11. 12
Connecting rods	12. 12. 12	Crank shaft	9. 1. 13	Thrust shaft	9. 1. 13	Tunnel shafts	9. 1. 13	Screw shaft	9. 1. 13
Stern tube	31. 1. 13	Steam pipes tested	24. 2. 13	Engine and boiler seatings	12. 2. 13	Engines holding down bolts	22. 3. 13		
Completion of pumping arrangements	27. 3. 13	Boilers fixed	24. 3. 13	Engines tried under steam	25. 3. 13				
Main boiler safety valves adjusted	25. 3. 13	Thickness of adjusting washers	P. $\frac{1}{2}$ full $\frac{1}{8}$ " S. $\frac{1}{2}$ $\frac{1}{4}$ full						
Material of Crank shaft	S.	Identification Mark on Do.	R. JTF	Material of Thrust shaft	S	Identification Mark on Do.	R. JTF		
Material of Tunnel shafts	S.	Identification Marks on Do.	R. JTF	Material of Screw shafts	W. J.	Identification Marks on Do.	R. JTF		
Material of Steam Pipes	Copper	Test pressure	360 lbs						

General Remarks (State quality of workmanship, opinions as to class, &c. Engines and boilers constructed under special survey. Materials and workmanship good. On request tailors examined under full steam & found satisfactory. It is submitted that this vessel be recorded in the Register book with notification L.M.C. 3. 1913

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 3. 13.

J.S.
 3. 4. 13

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

The amount of Entry Fee .. £ 3 : : : When applied for. _____
 Special .. £ 39. 6 : : : _____
 Donkey Boiler Fee .. £ : : : When received. _____
 Travelling Expenses (if any) £ : : : 4/4/13

Committee's Minute FRI. APR. 4--1913
 Assigned + L.M.C. 3. 13

MACHINERY CERTIFICATE WRITTEN

