

REPORT ON MACHINERY.

No. 24704

SAT. 21 JAN 1911

Port of Sunderland Received at London Office 19

No. in Survey held at Sunderland Date, first Survey June 24, 1910 Last Survey Jan 13 1911

Reg. Book. 88 "Mediterraneo" (Number of Visits 25) Tons Gross 4539 Net 2800

on the Arabia Built at Sunderland By whom built Wm Doxford & Sons Ltd No 1420 When built 1910-11

Engines made at Sunderland By whom made Wm Doxford & Sons Ltd when made do

Boilers made at Sunderland By whom made Wm Doxford & Sons Ltd when made do

Registered Horse Power 395 Owners Soc. Anon. di Navigazione Italiana Port belonging to Lussimpiccola

Nom. Horse Power as per Section 28 395 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines

Triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25" x 41" x 68" Length of Stroke 15" Revs. per minute 94 Dia. of Screw shaft as per rule 13 1/8" as fitted 14 1/8" Material of screw shaft 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 ✓ 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 or protected between the liners ✓ Length of stern bush 92"

Dia. of Tunnel shaft as per rule 12 1/2" as fitted 12 1/4" Dia. of Crank shaft journals as per rule 13 1/4" as fitted 13 1/8" Dia. of Crank pin 13 1/2" Size of Crank webs 8 1/8" Dia. of thrust shaft under collars 13 1/8" Dia. of screw 16-9" Pitch of Screw 16-6" No. of Blades 4 State whether moveable no Total surface 84 sq ft

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines 3 Sizes of Pumps 10" x 10" x 10", 6" x 6" x 6", 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 @ 3 1/2" & 1 @ 3 1/2" special In Holds, &c. No 1 2 @ 3 1/2", No 2 2 @ 3 1/2"

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size 1 @ 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 ✓

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 Hold Bilge suction How are they protected 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

Dates of examination of completion of fitting of Sea Connections 13-9-10 of Stern Tube 13-9-10 Screw shaft and Propeller 19-12-10

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Lip. E.R. Grating

BOILERS, &c.—(Letter for record)

Manufacturers of Steel John Spencer & Sons Ltd

Total Heating Surface of Boilers 4250 sq ft Is Forced Draft fitted yes No. and Description of Boilers Two Single ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 6-9-10 No. of Certificate 2860

Can each boiler be worked separately yes Area of fire grate in each boiler 52.5 sq ft No. and Description of Safety Valves to each boiler 2 - spring loaded Area of each valve 12.566 sq ft 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 1'-3" Mean dia. of boilers 13-9" Length 11'-6" Material of shell plates Steel

Thickness 1 1/8" Range of tensile strength 78-32 lbs 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 13/16" Pitch of rivets 8 1/4" Lap of plates or width of butt straps 14 1/2"

Per centages of strength of longitudinal joint rivets 88% Working pressure of shell by rules 182 lbs Size of manhole in shell 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Cor. Material Steel Outside diameter 45 1/4"

Length of plain part top 3 1/2" Thickness of plates crown 3 1/2" Description of longitudinal joint weld No. of strengthening rings none

Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 1/2" Back 2 1/2" Top 2 1/2" Bottom 1 3/4"

Pitch of stays to ditto: Sides 9 1/2" x 8 1/2" Back 9 1/2" x 8 1/2" Top 10" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 lbs

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 80 sq in Working pressure by rules 228 lbs End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 19 1/2" x 16 1/2" How are stays secured D.N. Wash Working pressure by rules 180 Material of stays Steel

Diameter at smallest part 2-1/8" Area supported by each stay 395.8 Working pressure by rules 195 Material of Front plates at bottom Steel

Thickness 13/16" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 13 x Working pressure of plate by rules 185 lbs

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/8" Material of tube plates Steel Thickness: Front 2 1/8" Back 2 1/2" Mean pitch of stays 11 1/4" x 1 1/4"

Pitch across wide water spaces 12 1/2" Working pressures by rules 188 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 x 1 1/2" Length as per rule 31 9/16" Distance apart 8" Number and pitch of stays in each 2 @ 10"

Working pressure by rules 188 Superheater or Steam chest; how connected to boiler none 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 ✓

005358 - 005366 - 0154

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No donkey Boiler fitted.

| | | | | | | |
|--------------------------------------|--|---------------------------|-------------------------------------|----------------------------------|-----------------------|--|
| 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 easing 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 | Stayed by | | | | |
| Diameter of uptake | Thickness of uptake plates | Thickness of water tubes | Dates of survey | | | |

SPARE GEAR. State the articles supplied:— 2 low rod bottom end bolts & nuts, 2 low rod top end bolts & nuts, 2 main bearing bolts & nuts, 1 set coupling bolts, 1 set feed pump valves, 1 set bilge pump valves, 1 propeller, 1 propeller shaft, 6 junk pin bolts, 6 high cover studs, Assorted bolts nuts & rivs.

WILLIAM DOXFORD & SONS, Limited.

The foregoing is a correct description,

Manufacturer.

Wm. Doxford

Director.

| | | |
|--------------------------------|-----------------------------------|---|
| Dates of Survey while building | During progress of work in shops— | 1910 June 24. July 4. 25. Aug 5. 12. 16. 19. 31. Sep. 5. 6. 13. 22. 28. Oct. 10. 17. Dec. 19. 21. 24. 26. 30. |
| | During erection on board vessel— | 1911 Jan. 5. 9. 13. |
| | Total No. of visits | 25 |

Is the approved plan of main boiler forwarded herewith ☒ yes

| | | | | | | | | | |
|---|-----------------------------------|------------------------------------|----------|----------------------------|-----------|-----------------------------|----------------------------|------------------------------------|---|
| Dates of Examination of principal parts—Cylinders | 5-8-10 | Slides | 16-8-10 | Covers | 16-8-10 | Pistons | 16-8-10 | Rods | 5-8-10 |
| Connecting rods | 16-8-10 | Crank shaft | 16-8-10 | Thrust shaft | 5-9-10 | Tunnel shafts | 5-9-10 | Screw shaft | 5-9-10 |
| Propeller | 31-8-10 | Stern tube | 31-8-10 | Steam pipes tested | 28-9-10 | 24-12-10 | Engine and boiler seatings | 10-9-10 | Engines holding down bolts |
| Engines holding down bolts | 30-12-10 | Completion of pumping arrangements | 28-12-10 | Boilers fixed | 28-12-10 | Engines tried under steam | 30-12-10 | Main boiler safety valves adjusted | 30-12-10 |
| Thickness of adjusting washers | 3-93 P.A. 5-66 KH 2351 HK 2351 HK | Material of Crank shafts | Steel | Identification Mark on Do. | 3846 H.K. | Material of Thrust shaft | Steel | Identification Mark on Do. | 2354 H.K. |
| Material of Thrust shaft | Steel | Identification Marks on Do. | 1518 AFD | Material of Screw shafts | Steel | Identification Marks on Do. | 5604 KH 5605 KH | Material of Steam Pipes | 4 solid drawn Copper 5 1/2" dia. x 1/2" thick |
| Test pressure | 100 lbs | | | | | | | | |

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has been built under special survey, the materials and workmanship are of good quality. The Boilers were tested by hydraulic pressure & their safety valves adjusted under steam and the whole of the machinery was securely fitted on board & satisfactorily tried under steam.

The Machinery of this vessel is in good & safe working condition & eligible in my opinion to be classed with record **L.M.C. 1-11** in the Registered Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1-11. 2SB(FD) 1/Aux SB.

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|--------------------------------|------------|-------------------|---------|
| The amount of Entry Fee.. | £ 3 :- :- | When applied for, | 17/1/11 |
| Special .. | £ 39 15 :- | When received, | 21/1/11 |
| Donkey Boiler Fee .. | £ | | |
| Travelling Expenses (if any) £ | | | |

Committee's Minute

TUE. 24 JAN 1911

Assigned

+ hmc 1-11

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



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MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.