

## REPORT ON MACHINERY.

No. 21064.

Port of Glasgow

UES. 18 AUG 1903

Received at London Office

No. in Survey held at GlasgowDate, first Survey 18<sup>th</sup> March Last Survey 5-8-1903

Reg. Book.

(Number of Visits 26)on the S. S. "Onid."

Master

Built at AyrBy whom built Ailsa S. B. Co.Tons }  
Gross  
NetWhen built 1903Engines made at GlasgowBy whom made Ross & Duncanwhen made 1903Boilers made at GlasgowBy whom made Ross & Duncanwhen made 1903

Registered Horse Power

Owners

Port belonging to Barnardston

Nom. Horse Power as per Section 28

65

Is Refrigerating Machinery fitted

☒

Is Electric Light fitted

☒ENGINES, &c.—Description of Engines Compound

No. of Cylinders

2No. of Cranks 2Dia. of Cylinders 16" & 34"Length of Stroke 24"Revs. per minute 116Dia. of Screw shaft as per rule 7 1/2"Material of screw shaft ironIs 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

Is 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 29 1/2"Dia. of Tunnel shaft as per rule 6 5/8"as fitted nilDia. of Crank shaft journals as per rule 6 9/16"as fitted 7 1/2"Dia. of Crank pin 7 1/2"Size of Crank webs 4 1/2" x 10 1/2"

Dia. of thrust shaft under

Halls 7 1/2"Dia. of screw 8-3"Pitch of screw 11-4 1/2"No. of blades 4State whether moveable noTotal surface 25 sq ftNo. of Feed pumps 1Diameter of ditto 2 1/2"Stroke 12"Can one be overhauled while the other is at work ☒No. of Bilge pumps 1Diameter of ditto 2 3/4"Stroke 12"Can one be overhauled while the other is at work ☒No. of Donkey Engines 2Sizes of Pumps 4 3/4 x 36 x 8

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room

2-2"1-1 1/2"2-2"In Holds, &c. no2-2"No. of bilge injections 1sizes 2 3/4"Connected to condenser, or to circulating pump air pumpIs a separate donkey suction fitted in Engine room & size 1-2"Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible ☒Are all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the discharge pipes above or below the deep water line yesAre they each fitted with a discharge valve always accessible on the plating of the vessel yesAre the blow off cocks fitted with a spigot and brass covering plate yesHow are they protected wood casingsWhat pipes are carried through the bunkers bilge suctionsAre all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock on waysIs the screw shaft tunnel watertight ☒Is it fitted with a watertight door ☒worked from ☒

Boilers, &amp;c.—

(Letter for record 47)

Total Heating Surface of Boilers

1206.5 sq ftIs forced draft fitted ☒

and Description of Boilers

1 S.E. Multitubular

Working Pressure

130 lbsTested by hydraulic pressure to 260 lbs

No. of test

26-6-03Can each boiler be worked separately ☒

Area of fire grate in each boiler

36.45 sq ft

No. and Description of safety valves to

boiler 2 Direct Spring

Area of each valve

4.9 sq in

Pressure to which they are adjusted

135 lbsAre they fitted with easing gear yesLeast distance between boilers or uptakes and bunkers on woodwork5'-6"

Mean dia. of boilers

12'-0"

Length

9'-6"Material of shell plates steelThickness 1 1/8"

Range of tensile strength

27-32Are they welded or flanged no

Descrip. of riveting: cir. seams

L. D. R.

long. seams

A. B. S. J. R.

Pitch of rivet holes in long. seams

15

Pitch of rivets

63

Gap of plates or width of butt straps

15"

Percentages of strength of longitudinal joint

rivets 84.5plate 84.5

Working pressure of shell by rules

135 lbs

Size of manhole in shell

16" x 12"

No. of compensating ring

2

No. and Description of Furnaces in each boiler

2 plain

Material

steel

Outside diameter

45"

at bottom

Th of plain part

top 5 9/16"bottom 8'-14"

Thickness of plates

crown 2 1/2"

Description of longitudinal joint

weld

No. of strengthening rings

partial

Working pressure of furnace by the rules

148 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

17

Back

17

of stays to ditto: Sides

8" x 8"

Back

8" x 8"

Top

7 1/2" x 8 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

131 lbs

Material of stays

iron

Diameter at smallest part

1 1/4"

Area supported by each stay

64.65 sq in

Working pressure by rules

134 lbs

End plates in steam space:

Material

steel

Thickness

29

Pitch of stays

17 x 17

How are stays secured

nuts

Working pressure by rules

134 lbs

at smallest part

3 7/8"

Area supported by each stay

289 sq in

Working pressure by rules

130 lbs

Material of Front plates at bottom

steel

Thickness

5

Material of Lower back plate

steel

Thickness

5

Greatest pitch of stays

13

Working pressure of plate by rules

152 lbs

Pitch of tubes

3 1/4"

Pitch of tubes

4 3/8" x 4 3/8"

Material of tube plates

steel

Thickness: Front

2 3/32"

Back

2 3/32"

Mean pitch of stays

11 1/2"

across wide water spaces

14 1/2" x 14 1/2"

Working pressures by rules

171 & 149 lbs

Girders to Chamber tops: Material

iron

Depth and

ess of girder at centre

6 1/4" x 2"

Length as per rule

28.25

Distance apart

8 1/2"

Number and pitch of Stays in each

2-7 3/4"

Working pressure by rules

143 lbs

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

tely

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

en 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



## DONKEY BOILER— No. Description

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ 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 \_\_\_\_\_ 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 \_\_\_\_\_

Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 Top end bolts & nuts. 2 Bottom end bolts & nuts. 1 set of coupling bolts & nuts. 2 Main bearing bolts. 1 set of Feed & Bilge pump valves. 6 boiler tubes. 6 condenser tubes.  $\frac{1}{2}$  set of firebars. an assortment of bolts, nuts, iron etc.

The foregoing is a correct description,

*Ross & Duncan* Manufacturer.

Dates of Survey while building { During progress of work in shops— 1903: Mar 18. 24. 26. Apr 1. 6. 9. 15. 17. 23. May 5. 11. 19. 22. 26. 29. June 15. 17. 23. 25. 29. 30. July 1. 6. 10. 25. Aug 5. }  
 { During erection on board vessel — }  
 Total No. of s 26.

Is the approved plan of main boiler forwarded herewith

yes.

" " " donkey " " "

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

The materials have been tested, & the work carried out under special survey, both materials & workmanship being of good description. on completion this machinery was securely fastened down on board & tried under steam with satisfactory results.

In my opinion this machinery is eligible to be classed in the Register Book with record of  $\pm$  L.M.C. 8.03.

It is submitted that  
 this vessel is eligible for  
 THE RECORD  $\pm$  L.M.C. 8.03

*H/O*  
 20.8.03

The amount of Entry Fee.. £ 1 : :  
 Special .. £ 9 : 15 :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 17.8.03  
 Not yet received, 21.8.03

*A. J. Bassett*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute Glasgow 17 AUG 1903

Assigned  $\pm$  L.M.C. 8.03.

When fee is paid



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 Foundation