

pt. 4.

# REPORT ON MACHINERY

No. 24446

FRIDEC 1-1911

Received at London Office

Site of writing Report

19

When handed in at Local Office

20.11.11 Port of Hull

No. in Survey held at Reg. Book.

Date, First Survey May 3<sup>rd</sup> Last Survey 11<sup>th</sup> Nov 1911

4. Diff. on the

Steel Se. R. Sutton

(Number of Visits 31)

Gross 332

Master

Built at Selby

By whom built Cochrane Sons

Tons Net 132

When built 1911

Engines made at

By whom made Messrs

when made 1911

Boilers made at

Hull

By whom made Charles D. Holmes & Co. Ltd

when made 1911

Registered Horse Power

Owners City Steam Fishing Co. Ltd., Port belonging to Hull

Tom. Horse Power as per Section 28 86

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

12 3/4 - 23 - 37

Length of Stroke 26

Revs. per minute 109

Dia. of Screw shaft

as per rule 7.875

Material of 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

Is the propeller boss

Yes

If the liner is in more than one length are the joints burned

Yes

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 36

Dia. of Tunnel shaft

as per rule 6.99

Dia. of Crank shaft journals

as per rule 7.3

Dia. of Crank pin 7.5

Size of Crank webs 14 1/2 x 5

Dia. of thrust shaft under

collars 7.5

Dia. of screw 9 - 7 1/2

Pitch of Screw 11 - 0

No. of Blades 4

State whether moceable No

Total surface 35 sq

No. of Feed pumps 1

Diameter of ditto 2 3/4

Stroke 16

Can one be overhauled while the other is at work

No. of Bilge pumps 1

Diameter of ditto 2 3/4

Stroke 16

Can one be overhauled while the other is at work

No. of Donkey Engines One

Sizes of Pumps 6" x 4 1/2" x 6"

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

In Engine Room Two 2", One 3", One 3 1/2"

In Holds, &c. One 2" to fore hold, one 2" to

main hold, one 2" to tank, with Ejector connection

No. of Bilge Injections 1

sizes 3 1/2"

Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 3" Gp.

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

Yes

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

tank hold suction

How are they protected

Wood casing

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 9.9.11

of Stern Tube 9.9.11

Screw shaft and Propeller 9.9.11

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel Phoenix & Co. Ltd. Hull, & Co. Ltd. Hull

Total Heating Surface of Boilers 1400 sq

Is Forced Draft fitted

No

No. and Description of Boilers One Gyl. Hull. S. End

Working Pressure 200 lbs

Tested by hydraulic pressure to 400 lbs

Date of test 19.9.11

No. of Certificate 1840

Can each boiler be worked separately

—

Area of fire grate in each boiler

48.75 sq

No. and Description of Safety Valves to

each boiler Two Spring

Area of each valve 4.9 sq

Pressure to which they are adjusted

200 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

7 1/2

Mean dia. of boilers 14 - 0

Length 10 - 6

Material of shell plates

S

Thickness 1 1/2

Range of tensile strength

29 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L. D.

long. seams D. B. S. Y. R.

Diameter of rivet holes in long. seams

1 3/16

Pitch of rivets

7 1/8

Lap of plates or width of butt straps

17 1/2

Per centages of strength of longitudinal joint

rivets 86

plate 84.9

Working pressure of shell by rules

201 lbs

Size of manhole in shell

16 x 12

Size of compensating ring

7 x 1 1/2

No. and Description of Furnaces in each boiler

3 plain

Material

S

Outside diameter

40

Length of plain part

top 6 - 3 1/2

Thickness of plates

bottom 1 3/16

Description of longitudinal joint

welded

No. of strengthening rings

None

Working pressure of furnace by the rules

210 lbs

Combustion chamber plates: Material

S

Thickness: Sides

23/32

Back

23/32

Top

11/16

Bottom

23/32

Working pressure by rules 207 lbs

Pitch of stays to ditto: Sides

10" x 8 1/2"

Back

9 1/4" x 8 3/4"

Top

9" x 8 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules 219

End plates in steam space:

Material of stays

S

Diameter at smallest part

1 5/8

Area supported by each stay

85 sq

Working pressure by rules 219

Material of stays

Material

S

Thickness

1 1/2

Pitch of stays

20 x 17

How are stays secured

By riv. 8 x 3/4

Diameter at smallest part

6.88

Area supported by each stay

353.6 sq

Working pressure by rules

202 lbs

Material of Front plates at bottom

S

Thickness

1/2

Material of Lower back plate

S

Thickness

23/32

Greatest pitch of stays

14 x 8 3/4

Diameter of tubes

3 1/2

Pitch of tubes

5" x 5 1/2"

Material of tube plates

S

Thickness: Front

7/8

Back

7/8

Mean pitch of stays

10 1/8

Pitch across wide water spaces

14 1/4

Working pressures by rules

275 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

Working pressure by rules

210 lbs

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

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

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Working pressure of end plates



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 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 \_\_\_\_\_ 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:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each, air and feed and bilge pump valves, assorted bolts and nuts, iron various sizes etc

The foregoing is a correct description,  
 p. pro CHARLES D. HOLMES & Co. Ltd. Manufacturer.

During progress of work in shops -- 1911 - May 3. 8. 18. Jun 7. 29. 30. July 7. 21. Aug 2. 10. 14. 17. 21. Sep 4. 9. 11. 19. 26. 27.  
 During erection on board vessel -- Oct 2. 9. 12. 19. 25. 26. 31. Nov 2. 3. 4. 6. 11.  
 Total No. of visits 31.  
 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 27. 9. 11 Slides 9. 10. 11 Covers 9. 10. 11 Pistons 9. 10. 11 Rods 26. 9. 11  
 Connecting rods 2. 10. 11 Crank shaft 2. 10. 11 Thrust shaft 14. 8. 11 Tunnel shafts \_\_\_\_\_ Screw shaft 4. 9. 11 Propeller 4. 9. 11  
 Stern tube 4. 9. 11 Steam pipes tested 2. 11. 11 Engine and boiler seatings 25. 10. 11 Engines holding down bolts 3. 11. 11  
 Completion of pumping arrangements 11. 11. 11 Boilers fixed 3. 11. 11 Engines tried under steam 4. 11. 11  
 Main boiler safety valves adjusted 4. 11. 11 Thickness of adjusting washers 3/8" 3/8"  
 Material of Crank shaft 5 Identification Mark on Do. 12. J.P. 863 T&D. 14. 8. 11  
 Material of Tunnel shafts Identification Marks on Do. 2. 10. 11 Material of Thrust shaft 5 Identification Mark on Do. 4349 MR  
 Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs per sq. inch 863 J.B. 4. 9. 11

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery and boilers of this vessel have been built under special survey in accordance with the Rules, the materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines secured on board, and tested under steam, they are now in good order, and safe working condition, and respectfully submitted as being eligible in my opinion to be classed, with the notation of L.M.C. 11. 11 in the Register Book

It is submitted that  
 this vessel is eligible for  
 THE RECORD + LMC 11. 11.

JWR. 1/12/11

The amount of Entry Fee .. £ 1 : : : When applied for, 28/11/1911.  
 Special .. £ 12 : 18 : :  
 Donkey Boiler Fee .. £ : : : When received, 31/11/1911.  
 Travelling Expenses (if any) £ : 8 : 2

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

Committee's Minute TUE. DEC. 5—1911

Assigned

MACHINERY CERTIFICATE  
 WRITTEN.



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 Foundation