

Rpt. 4.

REPORT ON MACHINERY.

No. 8573

TUE. AUG. -4. 1914

Received at London Office

Date of writing Report 25. 7. 1914 When handed in at Local Office 1-8. 1914

Port of

MIDDLESBRO'

No. in Survey held at Middlesbrough

Date, First Survey April 28thLast Survey July 30th 1914

Reg. Book.

11 on the

S.S. "Brock"

(Number of Visits 28)

Master

Built at Middlesbrough By whom built Smith's Dock Co. Ltd.

Tons } Gross
Net

When built 1914

Engines made at Middlesbrough

By whom made Smith's Dock Co. Ltd. (No. 75)

when made 1914

Boilers made at Stockton

By whom made Blair & Co. Ltd.

when made 1914

Registered Horse Power

Owners J. H. Ward & Sons

Port belonging to Fleetwood

Nom. Horse Power as per Section 28 99

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 13¹/₄, 23, 37

Length of Stroke 27

Revs. per minute 108

Dia. of Screw shaft

as per rule 7.88

Material of Iron

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 3'-2¹/₂"

Dia. of Tunnel shaft

as per rule 6.95"

Dia. of Crank shaft journals

as per rule 7.3"

Dia. of Crank pin 7¹/₂"Size of Crank webs 11"x4⁵/₈"

Dia. of thrust shaft under

collars 7¹/₂"

Dia. of screw 9'-9"

Pitch of Screw 11'-3"

No. of Blades 4

State whether moveable No

Total surface 35 sq. ft.

No. of Feed pumps 2

Diameter of ditto 2³/₄"Stroke 13¹/₂"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 2³/₄"Stroke 13¹/₂"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two

Sizes of Pumps 6"x6"x6"

6"x4"x6"

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

In Engine Room Two 2"

In Holds, &c. Two 2"

Ejector suction from all bilges & discharge overboard.

No. of Bilge Injections 1

size 3¹/₂"

Connected to condenser, or to circulating pump Pump

Is a separate Donkey Suction fitted in Engine room & size Yes 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 Cold bilge 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. 6. 14

of Stern Tube 8. 6. 14

Screw shaft and Propeller 8. 6. 14

Is the Screw Shaft Tunnel watertight None

Is it fitted with a watertight door ✓

worked from ✓

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets.....

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top.....

Thickness of plates

crown.....

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

11. 16. 18. 22.

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

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

W1009-0014

Lloyd's Register
Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *None* Description

Made at

By whom made

When made

Where fired

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:—

Two top & two bottom-end connecting rod bolts & nuts. Two main bearing bolts & nuts. One set of coupling bolts & nuts. One set of feed & bilge pump valves. Main & donkey feed check valves. Assorted bolts & nuts etc.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops
During erection on board vessel
Total No. of visits

1914. Apr. 28. May. 13. 19. 20. 21. 26. 28. 29. Jun. 3. 4. 5. 8. 9. 15. 19. 22. 25. 29. Jul. 2. 7. 9. 14. 17. 21. 22. 23. 24. 30.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders

28. 5. 14

Slides

5. 6. 14

Covers

5. 6. 14

Pistons

29. 5. 14

Connecting rods

29. 5. 14

Crank shaft

8. 5. 14

Thrust shaft

23. 4. 14

Tunnel shafts

None

Screw shaft

23. 4. 14

Stern tube

4. 6. 14

Steam pipes tested

18. 7. 14

Engine and boiler seatings

9. 6. 14

Engines holding down bolts

29. 6. 14

Completion of pumping arrangements

23. 7. 14

Boilers fixed

23. 7. 14

Engines tried under steam

23. 7. 14

Main boiler safety valves adjusted

23. 7. 14

Thickness of adjusting washers

PV $\frac{1}{4}$ SV $\frac{5}{16}$

Material of Crank shaft

Steel

Identification Mark on Do.

3719WDM

Material of Thrust shaft

Iron

Identification Mark on Do.

3719WDM

Material of Tunnel shafts

None

Identification Marks on Do.

✓

Material of Screw shafts

Iron

Identification Marks on Do.

3719WDM

Material of Steam Pipes

Solid drawn copper

Test pressure

360 lbs

General Remarks

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

The Engines of this vessel have been constructed under Special Survey and are of good material and workmanship.

The Engines and Boiler of this vessel have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of +LMC 7-14 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. +LMC 7.14

The amount of Entry Fee

£ *1 : 0 :*

When applied for.

Special

£ *8 : 16 :*

1/8/14

Donkey Boiler Fee

£ *:*

When received

Travelling Expenses (if any)

£ *:*

28.9.14

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

Committee's Minute

TUE. AUG. 11. 1914

Assigned

+ LMC 7.14.



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