

REPORT ON MACHINERY.

No. 10241.

Received at London Office

THU. NOV. 14. 1918

Date of writing Report 5-11-18

When handed in at Local Office

12/11/18 Port of

MIDDLESBRO'

Date, First Survey 13th Oct. 17Last Survey 26th Oct. 1918

eg. Book.

(Number of Visits 79

Gross 3116.19

Net 1863.04

When built 1918.

Master T.A. Saylor

Built at Middlesbrough

By whom built J.R. Dixon & Co

Engines made at Middlesbrough

By whom made Messrs. Richardson, Westgirth & Co Ltd when made 1918.

Boilers made at Middlesbrough

By whom made Messrs. Richardson, Westgirth & Co Ltd when made 1918.

Registered Horse Power

Owners Shipping Controller

Port belonging to London.

Nom. Horse Power as per Section 28

433

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes

Engines, &c.—Description of Engines Triple expansion, Vertical

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 25, 41, 68

Length of Stroke 45

Revs. per minute 78

Dia. of Screw shaft

as per rule 13.57

Material of screw shaft

S. 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

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 6'-0"

Dia. of Tunnel shaft

as per rule 12.42

as fitted 12 1/2

Dia. of Crank shaft journals

as per rule 13.04

as fitted 13 1/4

Dia. of Crank pin

13 1/4

Collars

13 1/4

Dia. of screw

16'-0"

Pitch of Screw

16'-3"

No. of Blades 4

State whether moveable No

Total surface 15 sq

No. of Feed pumps 2

Diameter of ditto 3 1/2

Stroke 24

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 2

Diameter of ditto 3 1/2

Stroke 24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 3

SIZES OF PUMPS

20 9/16 x 1 1/2 x 18"

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

In Engine Room

4 2 3"

In Holds, &c. Forward 6 2 3" Aft 2 2 3, 2 2 1/2"

No. of Bilge Injections 1

SIZES 11"

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes 3"

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

Main bilge

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

Suctions to forward holds

How are they protected

Wood culip

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

Is the Screw Shaft Tunnel watertight

See hull report

Is it fitted with a watertight door

No

worked from

Hump at each end

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

John Spence & Sons

Total Heating Surface of Boilers

6420 sq

Is Forced Draft fitted

Yes

No. and Description of Boilers 3 Single ended

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test 18.4.18

No. of Certificate 5915

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

51.7 sq

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

8.29

Pressure to which they are adjusted

185

Are they fitted with easing gear

Yes

Smallest distance between boilers

on uptakes and bunkers

on woodwork

5'-8 1/2"

Mean dia. of boilers

14'-0"

Length

11'-8 1/2"

Material of shell plates

Steel

Thickness

1 1/8"

Range of tensile strength

28/32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

2A lap

long. seams

2 Butts: 3/16"

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

18"

Per centages of strength of longitudinal joint

rivets 86.3

plate 86.0

Working pressure of shell by rules

182

Size of manhole in shell

None

Size of compensating ring

No. and Description of Furnaces in each boiler

3 Deighton

Material

Steel

Outside diameter

43"

Length of plain part

top

Thickness of plates

crown 3 1/32"

Description of longitudinal joint

Weld

No. of strengthening rings

1

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/16"

Back

3 1/4"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

9 1/8 x 9"

Back

10 1/8 x 9 1/2"

Top

9 1/8 x 9"

If stays are fitted with nuts or riveted heads

Auto

Working pressure by rules

193

Material of stays

Steel

Area at smallest part

2.03

Area supported by each stay

84.3

Working pressure by rules

217

End plates in steam space:

Material

Steel

Thickness

1 1/32"

Pitch of stay

23 1/4 x 19 1/4"

How are stays secured

Rivets

Area at smallest part

8.24

Area supported by each stay

46.3

Working pressure by rules

185

Material of Front plates at bottom

Steel

Thickness

3 1/32"

Material of Lower back plate

Steel

Thickness

2 1/32"

Greatest pitch of stays

13.5 x 9"

Diameter of tubes

2 3/4"

Pitch of tubes

4 x 4"

Material of tube plates

Steel

Thickness: Front

3 1/32"

Back

3 1/4"

Mean pitch of stays

10"

Pitch across wide water spaces

13.5"

Working pressures by rules

185

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

10 1/2 : 1 1/2"

Length as per rule

35.5

Distance apart

9 3/8"

Number and pitch of stays in each

309

Working pressure by rules

200

Steam dome: description of joint to shell

%

of strength of joint

Diam. of rivet holes

Description of longitudinal joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

Tested by Hydraulic Pressure to

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Is Easing Gear fitted

SUPERHEATER. Type

Date of Approval of Plan

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Pressure to which each is adjusted

Is Easing Gear fitted

Diam. of rivet holes

Diameter of Safety Valve

Working pressure of shell by rules

Crown plates

Thickness

How stayed

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Working pressure of shell by rules

Crown plates

Thickness

How stayed

Tested by Hydraulic Pressure to

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Is Easing Gear fitted

010067-010078-

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two each of main bearing, connecting rod top, and bottom end bolts & nuts, one set of coupling bolts & nuts, one set each of feed and bilge pump valves, C.I. propeller, assorted bolts & nuts and iron of various sizes, and minor gear as per revised list, attached to specification.

The foregoing is a correct description,

For and on behalf of
RICHARDSON, WESTGARTH & Co., Ltd.

H. Jackson

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1917 Oct 13. 19. 26. 29. Nov 5. 12. 15. 16. 1918 Jan 7. 9. 15. 17. 21. Feb 4. 11. 13. 18. 22. 25. 27. Mar 1. 6. 8. 11. 13. 19. 22. 25.
During erection on board vessel -- Apr 4. 10. 12. 23. 25. May 1. 2. 7. 12. 24. 29. June 3. 5. 8. 14. 18. 19. 20. 31. 24. 27. 29. July 3. 8. 9. 12. 15.
Total No. of visits 79.
Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders 11.3.18 Slides 2.5.18 Covers 11.3.18 Pistons 10.4.18 Rods 19.3.18
Connecting rods 19.3.18 Crank shaft 4.1.18^{HPL} Thrust shaft 9.7.18 Tunnel shafts 9.7.18 Screw shaft 24.7.18 Propeller 3.7.18
Stern tube 9.7.18 Steam pipes tested 12.7.18 Engine and boiler seatings 12.7.18 Engines holding down bolts 12.7.18

Completion of pumping arrangements 28.10.18 Boilers fixed 24.8.18 Engines tried under steam 7.10.18

Completion of fitting sea connections 24.6.18 Stern tube 9.7.18 Screw shaft and propeller 24.8.18

Main boiler safety valves adjusted 6.9.18 Thickness of adjusting washers $Pp \frac{3}{8} \times \frac{5}{16}$: $Cp \frac{3}{8} \times \frac{5}{16}$: $Sp \frac{7}{16} \times \frac{5}{8}$

Material of Crank shaft Steel Identification Mark on Do. 5941-AB Material of Thrust shaft L. Steel Identification Mark on Do. 7145-TM

Material of Tunnel shafts Steel Identification Marks on Do. 7145-TM Material of Screw shaft Steel Identification Marks on Do. 7145-TM

Material of Steam Pipes Iron Test pressure 540 lb

Is an installation fitted for burning oil fuel No. Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with.

Is this machinery duplicate of a previous case Yes. If so, state name of vessel Standard 6.

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been built under special Survey in accordance with the Rules and the amended specification. The materials and workmanship are good. On completion, the engines, boilers, and auxiliary machinery were examined under working conditions, and found satisfactory.

The Machinery of this vessel is in a good and efficient condition, and eligible, in my opinion for notation of + LMC 10.18 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 10.18. F.D.

JWD. 15/11/18. JMR

The amount of Entry Fee ... £ : : When applied for,
Special ... £ 69 : 5 : 5/11/18
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 11.12.19

Committee's Minute

WED. 20 NOV. 1918

Assigned

+ LMC 10.18

MADE BY
WRITTEN



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Foundation