

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

THUR. 15 MAY 1902

Received at London Office

No. in Survey held at

Hartlepool

Date, first Survey

3rd July, 1901

Last Survey

13th May, 1902

Reg. Book.

Sup 35 on the

Steel S.S. "Rapallo"

(Number of Visits 89)

Gross 5141

Net 3315.5

Master Schumacher

Built at N. Hartlepool

By whom built

Furness, Mithy & Co. Ltd.

When built

1902

Engines made at

Hartlepool

By whom made

Richardsons, Hedgarth & Co. Ltd.

when made

1902

Boilers made at

Hartlepool

By whom made

do

do

when made

1902

Registered Horse Power

490

Owners

British Maritime Trust Ltd.

Port belonging to

West Hartlepool

Nom. Horse Power as per Section 28

489

Is Refrigerating Machinery fitted

Yes

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

three

No. of Cranks

three

Dia. of Cylinders

28" - 46" - 74"

Length of Stroke

48"

Revs. per minute

70

Dia. of Screw shaft

as per rule 15.1"

Lgth. of stern bush

5' - 4 1/2"

Dia. of Tunnel shaft

as per rule 14"

Dia. of Crank shaft journals

as per rule 14.4"

Dia. of Crank pin

14 1/2"

Size of Crank webs

9 1/2" x 23 1/2"

Dia. of thrust shaft under

collars

collars

15"

Dia. of screw

18' - 0"

Pitch of screw

14 - 0 to 20 - 0"

No. of blades

4

State whether moveable

Yes

Total surface

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

4 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

Feed 5 1/2" x 10" duplex

Ballast 10" x 9"

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

In Holds, &c. Thirteen. — One 2 1/2" dia to fore Peak. One 3 1/2" dia to No. 1 hold, One 3 1/2" dia to No. 2 hold, One 3 1/2" dia to No. 3 hold, One 3 1/2" dia to No. 4 hold, One 3 1/2" dia to aft hold, One 3 1/2" dia to aft Peak.

In Engine Room

Three

3 1/2" dia

Connected to condenser, or to circulating pump

Yes

Is a separate donkey suction fitted in Engine room & size

Yes

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

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

-

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

none

How are they protected

Yes

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

New vessel

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

upper platform

BOILERS, &c.—

(Letter for record S.)

Total Heating Surface of Boilers

8140 sq. ft.

Is forced draft fitted

No

No. and Description of Boilers

4

Single ended. Cyl. Mult

Working Pressure

180 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

13-2-02

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

54 sq. ft.

No. and Description of safety valves to

each boiler

Im. Spring direct

Area of each valve

4.06 sq. in.

Smallest distance between boilers or uptakes and bunkers or woodwork

23"

Mean dia. of boilers

14' - 6"

Length

10' - 6"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

25 - 32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

treble

long. seams

treble

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9"

Lap of plates or width of butt straps

19 1/2"

Per centages of strength of longitudinal joint

rivets 86.1

plate 85.2

Working pressure of shell by rules

207 lbs.

Size of manhole in shell

13" x 16 1/2"

Size of compensating ring

30 x 30 x 1 1/2"

No. and Description of Furnaces in each boiler

3

Morison

Material

steel

Outside diameter

45 1/2"

Length of plain part

4' - 5 1/2"

Thickness of plates

crown 9"

bottom 9"

Description of longitudinal joint

weld

No. of strengthening rings

Yes

Working pressure of furnace by the rules

193 lbs.

Combustion chamber plates: Material

steel

Thickness: Sides

5"

Back

5"

Top

5"

Bottom

1 1/2"

Pitch of stays to ditto: Sides

7 3/8"

Back

7 3/8"

Top

7 3/8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

236 lbs.

Material of stays

steel

Diameter at smallest part

1 1/2"

Area supported by each stay

55 sq. in.

Working pressure by rules

200 lbs.

End plates in steam space:

Material

steel

Material

steel

Thickness

1 1/2"

Pitch of stays

15 1/4" x 13 1/2"

How are stays secured

B.N. + N.

Working pressure by rules

197 lbs.

Material of stays

Diameter at smallest part

2 1/2"

Area supported by each stay

202 sq. in.

Working pressure by rules

211 lbs.

Material of Front plates at bottom

steel

Thickness

1 1/2"

Material of Lower back plate

steel

Thickness

25 1/2"

Greatest pitch of stays

12 5/8"

Working pressure of plate by rules

190 lbs.

Diameter of tubes

3 1/2"

Pitch of tubes

4 5/8"

Material of tube plates

steel

Thickness: Front

1 1/2"

Back

25 1/2"

Mean pitch of stays

9 1/4"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

194 lbs.

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

7" x 15"

Length as per rule

29"

Working pressure by rules

180 lbs.

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

How stayed

Lloyd's Register

Foundation

W631 - 0146

DONKEY BOILER— No. ✓ Description No donkey boiler

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 Con. rod top + 2 Con. rod bottom ends bolts + nuts, 2 main bearing
+ one set of coupling bolts, one set of feed, bilge, main feed cheeks + donkey feed cheeks
valves, bolt nuts + iron various sizes, 2 propellers blades, propeller shaft,
12 bondeuss + 12 boiler tubes, 2 safety valve springs + one set of escape valve springs.

The foregoing is a correct description,

for RICHARDSONS, WESTGARTH & CO. LIMITED Manufacturer.

J. Richardson
Dates { During progress of work in shops— 1901. July. 3. 4. 11. Sept. 16. 17. 18. Oct. 1. 15. 17. 19. 21. 22. 24. 28. Nov. 5. 7. 8. 9. 11. 13. 14. 16. 19. 21. 22. 23. 25. 26. 27. 28. 29. 30. Dec. 2
of Survey { During erection on board vessel— 3. 4. 5. 6. 7. 9. 10. 11. 12. 16. 18. 19. 20. 21. 1902. Jan. 6. 8. 9. 11. 15. 17. 18. 21. 22. 23. 27. 28. 29. 30. 31. Feb. 1. 3. 4. 5. 6. 7. 10. 11. 12. 13. 14. 17. 18. 19
while building { Total No. of visits 89. Is the approved plan of main boiler forwarded herewith yes

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

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 yes If two liners are fitted, is the shaft lapped or protected between the liners ✓

The main steam pipes have been tested by hydraulic pressure to 360 lbs. per sq. in. and found tight.

The engines and boilers of this vessel, have been built under special survey in accordance with the Rule requirements. The materials and workmanship are good and efficient, when completed and fitted on board were tried under steam at moorings with satisfactory results, and are now in good working order, and in my opinion, eligible to have notation.

✠ L.M.C. 5, 02 in the Register Book

It is submitted that
this vessel is eligible for
THE RECORD ✠ L.M.C. 5, 02

The amount of Entry Fee. £ 3 :
Special £ 44 9 :
Donkey Boiler Fee £ :
Travelling Expenses (if any) £ :
When applied for, 13.5.1902
When received, 14.5.1902

Committee's Minute

FRI. 16 MAY 1902

Assigned

+ L.M.C. 5, 02

MACHINERY CERTIFICATE
WRITTEN.



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Foundation