

REPORT ON MACHINERY.

No. 12998.

Port of WEST HARTLEPOOL.

Received at London Office MON 2 JUL 1906

No. in Survey held at

Date, first Survey

1st Dec 1905 Last Survey 21st June 1906

(Number of Visits 39)

Reg. Book.

ybuapp on the

S. S. Louthier Range

Master

Built at W Hartlepool By whom built Furness Worthy & Co. Ld.

Tons Gross 3792.19

Net 2467.70

When built 1906

Engines made at

Hartlepool.

By whom made

Richardsons Westgarth & Co. Ld.

when made 1906

Boilers made at

By whom made

when made 1906

Registered Horse Power

Owners Hepburn Steam Navigation Co. Ltd.

Port belonging to

Durham

Nom. Horse Power as per Section 28

317.75

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 24" 19" 66"

Length of Stroke 45"

Revs. per minute 60

Dia. of Screw shaft

as per rule 14.3

Material of

screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

No

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

liners are fitted, is the shaft lapped or protected between the liners

Yes

Length of stern bush 4'-10"

Dia. of Tunnel shaft

as per rule 12.05

Dia. of Crank shaft journals

as per rule 12.34

Dia. of Crank pin 13

Size of Crank webs 8x2.1

collars 13"

Dia. of screw 16.9"

Pitch of Screw 16'-6"

No. of Blades 4

State whether moveable

No

Total surface

87.5 sq

No. of Feed pumps

2

Diameter of ditto

3

Stroke 27

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 3/4

Stroke 27

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

6x4x6 + 8 1/2 x 7

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

In Engine Room

4

3 1/2 Dia

In Holds, &c. No 3 Hold 2 3/2 No 2 Hold 2 3/2

No. of Bilge Injections

1

sizes

5

Connected to condenser, on 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

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

None

How are they protected

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

22/6/06

of Stern Tube

22/6/06

Screw shaft and Propeller

22/6/06

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Engine room S. P

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Glenide Bridge Steel Co

Total Heating Surface of Boilers

4891 sq

Is Forced Draft fitted

No

No. and Description of Boilers

Two Single ended

Working Pressure

180 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

25/4/06

No. of Certificate

3049

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

52.3 sq

No. and Description of Safety Valves to

each boiler

2

Spring

Area of each valve

7.06

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

24"

Mean dia. of boilers

16.0"

Length 10.9'

Thickness

19/32

Range of tensile strength

28.5/32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

DR

long. seams

TRDBS

Diameter of rivet holes in long. seams

19/32

Pitch of rivets

8 5/8

Lap of plates or width of butt straps

18 1/4

Per centages of strength of longitudinal joint

rivets 86.8

plate 85.2

Working pressure of shell by rules

181.5 lbs

Size of manhole in shell

16 1/2 x 13

Size of compensating ring

27 x 30 x 19/32

No. and Description of Furnaces in each boiler

3

Material

S

Outside diameter

50 3/4

Length of plain part

top 9"

bottom 9"

Thickness of plates

crown 19/32

bottom 19/32

Description of longitudinal joint

Welded

No. of strengthening rings

Working pressure of furnace by rules

186 lbs

Combustion chamber plates: Material

S

Thickness: Sides

19/32

Back 19/32

Top 19/32

Bottom 14/16"

Pitch of stays to ditto: Sides

8 1/2 x 7 1/2

Back 8 1/4 x 8

Top 8 1/2 x 7 1/4

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

183.5 lbs

Material of stays

S

Diameter at smallest part

1 3/8"

Area supported by each stay

8 3/4 x 8"

Working pressure by rules

180 lbs

End plates in steam space:

Material

S

Thickness

1"

Pitch of stays

16 1/4 x 16 1/8

How are stays secured

DN+W

Working pressure by rules

180 lbs

Material of stays

S

Diameter at smallest part

2 1/2"

Area supported by each stay

16 1/4 x 16 1/8

Working pressure by rules

187 lbs

Material of Front plates at bottom

S

Thickness

14/16

Material of Lower back plate

S

Thickness

13/16

Greatest pitch of stays

13"

Working pressure of plate by rules

194 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2"

Material of tube plates

S

Thickness: Front

15/16

Back 12/16

Mean pitch of stays

9"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

188 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8 1/2 x 13/4

Length as per rule

32"

Distance apart

8 3/4

Number and pitch of stays in each

3. 7 1/4

Working pressure by rules

187.5 lbs

Superheater or Steam chest; how connected to boiler

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

Yes

Lloyd's Register

W 831-0076

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 Safe _____
 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 _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 1 propeller 2 Piston rod bolts + nuts 2 connecting rod bolts + nuts 6 coupling bolts + nuts 2 Feed pump valves Spare gear as per rules

The foregoing is a correct description,

for RICHARDSONS, WESTGARTH & CO., LIMITED

Manufacturer.

Dates of Survey while building _____
 During progress of work in shops _____
 During erection on board vessel _____
 Total No. of visits _____
 Managing Director _____
 1905. Dec. 1. 4. 7. 1906. Jan. 19. 22. Feb. 2. 5. 6. 8. 22. 23. 24. Mar. 7. 9. 13. 15. 22. 29. Apr. 2. 5. 11. 12. 19. 22. 24. 25. 26. May 3. 8. 10. 14. 15. 17. 19. 22. June 21.

Is the approved plan of main boiler forwarded herewith _____

Dates of Examination of principal parts—Cylinders 24 3/06 Slides 19/4/06 Covers 6 4/06 Pistons 6/4/06 Rods 5/2/06
 Connecting rods 4/3/06 Crank shaft 15/3/06 Thrust shaft 23/3/06 Tunnel shafts 22/3/06 Screw shaft _____ Propeller 18/4/06
 Stern tube 17/5/06 Steam pipes tested 19/5/06 Engine and boiler seatings 17/5/06 Engines holding down bolts 17/5/06
 Completion of pumping arrangements 17/5/06 Boilers fixed 17/5/06 Engines tried under steam 22/5/06
 Main boiler safety valves adjusted 22/5/06 Thickness of adjusting washers CB 30 1/2 1/32. PR 1/2 1/32. PR 1/2 1/32.
 Material of Crank shaft S Identification Mark on Do. 4388 Material of Thrust shaft S Identification Mark on Do. 4388
 Material of Tunnel shafts S Identification Marks on Do. 4388 Material of Screw shafts Iron Identification Marks on Do. 4388
 Material of Steam Pipes 19/5/06 Test pressure 550 lbs.

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

The Engines & Boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The Engines have been tried under steam & the safety valves of the Main & Donkey boilers have been adjusted under steam to the working pressure.

The Machinery is now in good & safe working condition & eligible in my opinion to have the notation of + LMC 6.06 (in Red) in the Register book.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 6.06.

The amount of Entry Fee £ _____
 Special £ 35. 17. _____
 Donkey Boiler Fee £ _____
 Travelling Expenses (if any) £ _____
 When applied for, 29. 6. 06
 When received, 20. 6. 06

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

Committee's Minute

Assigned

TUES. 3 JUL 1906

MACHINERY CERTIFICATE WRITTEN.

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