

Rpt. 4.

138
REPORT ON MACHINERY.

NEWCASTLE ON TYNE

No. 60793

No. 23793

Received at London Office

FNL 9 JUN 1911

TUE AUG 8 - 1911

Date of writing Report

19

When handed in at Local Office

7th June 1911 Port of HullNo. in Survey held at
Reg. Book.

Hull

Date, First Survey

Sep. 19/11

Last Survey

6 June 1911

on the

Northumberland S. O. 6th No. 179. S.S. HORLEY

(Number of Visits 64)

Tons

Gross 4770

Net 3096

Master

Built at

Newcastle

By whom built

Northumberland S. O. 6th When built 1911

Engines made at

By whom made

Messrs

when made 1911

Boilers made at

Hull

By whom made

Earles & Co. Ltd.

when made 1911

Registered Horse Power

Owners

(Holder Middleton & Co. Ltd.)

Port belonging to

London

Nom. Horse Power as per Section 28

587

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

28" 46½" 78"

Length of Stroke

54"

Revs. per minute

65

Dia. of Screw shaft

as per rule 16.15

Material of

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

Is the propeller boss

Yes

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

68½"

Dia. of Tunnel shaft

as per rule 14.79

Dia. of Crank shaft journals

as per rule 15.5

Dia. of Crank pin

15.5"

Size of Crank webs

23" x 10½"

Dia. of thrust shaft under

collars

15½"

Dia. of screw

19'-0"

Pitch of Screw

18'-6"

No. of Blades

4

State whether moveable

No

Total surface

103 ft

No. of Feed pumps

2

Diameter of ditto

4½"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4½"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Two

Sizes of Pumps

11" x 13" x 12" 7½" x 4½" x 10" 0.4 hp

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

In Engine Room

Five 3½"

One 6"

In Holds, &c. Two 3½" in each hold 7" 1.2.3.4. Two 3½" deep tank

No. of Bilge Injections

1

sizes

6"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

Yes 3½"

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

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

13 & 15/2/11

of Stern Tube

30.5.11

Screw shaft and Propeller

30.5.11

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Top platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Phoenix A. & Co. B. & H. House Westphalia

Total Heating Surface of Boilers

8001 ft

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 cyl. Mult. Single Ended

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

27.4.11

No. of Certificate

1808

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

61 ft

No. and Description of Safety Valves to

each boiler

Two Spring

Area of each valve

7" x 7"

Pressure to which they are adjusted

203 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

15"

Mean dia. of boilers

15'-1½"

Length

11'-6"

Material of shell plates

S

Thickness

1½"

Range of tensile strength

28-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L. D.

Long. seams

D. B. S. L. R.

Diameter of rivet holes in long. seams

1½"

Pitch of rivets

9½"

Lap of plates or width of butt straps

21"

Percentages of strength of longitudinal joint

rivets 87.

plate 85.3

Working pressure of shell by rules

211 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

12½" x 9½" x 1½"

No. and Description of Furnaces in each boiler

3 Morris

Material

Steel

Outside diameter

3'-10¾"

Length of plain part

top 5"

Thickness of plates

bottom 5"

Description of longitudinal joint

Welded

No. of strengthening rings

0

Working pressure of furnace by the rules

215 lbs

Combustion chamber plates: Material

S

Thickness: Sides

¾"

Back

1/16"

Top

1/16"

Bottom

¾"

Pitch of stays to ditto: Sides

8½" x 8"

Back

8" x 7½"

Top

7½" x 9"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

285 lbs

Material of stays

S

Diameter at smallest part

1½"

Area supported by each stay

68 ft

Working pressure by rules

208 lbs

End plates in steam space:

Material

S

Thickness

1½"

Pitch of stays

15" x 17½"

How are stays secured

D. Nuts

Working pressure by rules

237 lbs

Material of stays

S

Diameter at smallest part

2½"

Area supported by each stay

262.5 ft

Working pressure by rules

246 lbs

Material of Front plates at bottom

S

Thickness

29/32"

Material of Lower back plate

S

Thickness

29/32"

Greatest pitch of stays

14½" x 7½"

Working pressure of plate by rules

208 lbs

Diameter of tubes

2½"

Pitch of tubes

3½" x 3¾"

Material of tube plates

S

Thickness: Front

29/32"

Back

7/8"

Mean pitch of stays

7½"

Pitch across wide water spaces

13"

Working pressures by rules

211 lbs

Girders to Chamber tops: Material

S

Depth and

Thickness of girder at centre

9" x 1½"

Length as per rule

2'-6½"

Distance apart

9"

Number and pitch of stays in each

Three 7½"

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

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

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 Saffter _____

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 boiler 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 feed and bilge pump valves, Iron of various sizes and a quantity of assorted bolts and nuts, & a propeller.

The foregoing is a correct description,

F. J. Salethorpe

Manufacturer.

9163

Dates of Survey while building

During progress of work in shops --	SECRETARY: 1910: Sep 19, 21, 27, Oct 5, 9, 13, 17, 24, 26, Nov 5, 10, 15, 19, 22, 23, 25, 29, Dec 1, 5, 6, 8, 13, 16, 19, 1911: Jan 3, 7, 10, 12, 14, 18, 31, Feb 2, 9, 13, 15, 21, 22, 24, 25, Mar 1, 6, 8, 13, 22, 23, Apr 1, 5, 7, 20, 21, 25, 27, May 1, 4, 9, 15, 16, 19, 26, 27, 30, Jun 6.
During erection on board vessel --	64 + 3 (Feb. 13, 14, Jun 30) at Nur
Total No. of visits	64 + 3 (Feb. 13, 14, Jun 30) at Nur

Is the approved plan of main boiler forwarded herewith Yes No 7 7 + 7

Dates of Examination of principal parts—Cylinders 5.4.11 Slides 7.4.11 Covers 25.2.11 Pistons 13.3.11 Rods 7.4.11

Connecting rods 13.3.11 Crank shaft 7.4.11 Thrust shaft 7.4.11 Tunnel shafts 27.5.11 Screw shaft 18.1.11 Propeller 30.5.11

Stern tube 12.2.11 Steam pipes tested 26.5.11 Engine and boiler seatings 9.5.11 Engines holding down bolts 30.5.11

Completion of pumping arrangements 6.6.11 Boilers fixed 30.5.11 Engines tried under steam 6.6.11

Main boiler safety valves adjusted 6.6.11 Thickness of adjusting washers 3/8" 7/16" 3/8" 3/4" 11" 3/4"

Material of Crank shaft S Identification Mark on Do. 10.1.11 C.J.H. Material of Thrust shaft S Identification Mark on Do. H.K. 2.11

Material of Tunnel shafts S Identification Marks on Do. 2994, H.K. 4462, H.K. 6463, H.K. 6443, H.K. 2995, H.K. Material of Screw shafts S Identification Marks on Do. 3116

Material of Steam Pipes Steel Test pressure 550 lbs per sq inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and good. The boilers 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. 6.11 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6.11.

The amount of Entry Fee .. £ 3 : : When applied for, .. 8.6.1911

Special .. £ 49 : : When received, .. 1.1.1911

Donkey Boiler Fee .. £ : : .. 3.0.1911

Travelling Expenses (if any) £ : : .. 1.1.1911

Committee's Minute

Assigned

TUE. AUG. 15. 1911

Thine 6.11

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

Lloyd's Register Foundation