

REPORT ON MACHINERY

No. 26340

Received at London Office

MON. JAN. 25. 1915

Date of writing Report

19

When handed in at Local Office

23-1-

1915

Port of

Sunderland

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

16 Sept. 1914

Last Survey

20 Jan. 1915

(Number of Visits)

30

on the

New Steel S.S. Devian

Master

R. Griffith

Built at

Sunderland

By whom built

J. Priestman & Co. Ltd.

Tons

Gross 3689

Net 2285

When built

1915

Engines made at

Sunderland

By whom made

North Eastern Marine Eng. Co. Ltd.

when made

1915

Boilers made at

Sunderland

By whom made

North Eastern Marine Eng. Co. Ltd.

when made

1915

Registered Horse Power

Owners

Williams (Cwen & Watkin) & Co.

Port belonging to

London

Nom. Horse Power as per Section 28

321

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

24" x 40" x 66"

Length of Stroke

45"

Revs. per minute

65

Dia. of Screw shaft

as per rule 14.536

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

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

Yes

If two

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

Composition at ends of liners

Length of stern bush

4'-10 1/2"

Dia. of Tunnel shaft

as per rule 12.12

Dia. of Crank shaft journals

as per rule 12.126

Dia. of Crank pin

12 1/8"

Size of Crank webs

19" x 8"

Dia. of thrust shaft under

collars

12 1/8"

Dia. of screw

1 1/2"

Pitch of Screw

16'-9"

No. of Blades

4

State whether moveable

No

Total surface

94 sq. ft.

No. of Feed pumps

Two

Diameter of ditto

3 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

Diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Two

Sizes of Pumps

9" x 8 1/2" x 10"

6" x 4" x 6"

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

In Engine Room

Three @ 3 1/2" diameter

In Holds, &c.

Two @ 3 1/2" diameter in each

No. of Bilge Injections

One size

4 1/2"

Connected to condenser, or to circulating pump

No

Is a separate Donkey Suction fitted in Engine room & size

Yes 3 1/2"

Are all the bilge suction pipes fitted with roses

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

16-10-14

of Stern Tube

22-12-14

Screw shaft and Propeller

22-12-14

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

top platform

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

J. Spencer & Sons Ltd. Newburn

Total Heating Surface of Boilers

4998 sq. ft.

Is Forced Draft fitted

No

No. and Description of Boilers

Three single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

19-11-14

No. of Certificate

3263

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

38 sq. ft.

No. and Description of Safety Valves to

each boiler

Two spring loaded

Area of each valve

3.9 sq. ft.

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

20"

Mean dia. of boilers

13'-6"

Length

11'-0"

Material of shell plates

Steel

Thickness

1 1/4"

Range of tensile strength

20,853-33,400

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

8 1/4"

Lap of plates or width of butt straps

16 3/4"

Per centages of strength of longitudinal joint

rivets 88.1

plate 86.36

Working pressure of shell by rules

180.5

Size of manhole in shell

16" x 12"

Size of compensating ring

dished

No. and Description of Furnaces in each boiler

Two Deighton

Material

Steel

Outside diameter

3'-11 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

weld

No. of strengthening rings

1

Working pressure of furnace by the rules

185 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

3/4"

Back

3/4"

Top

Bottom

Pitch of stays to ditto: Sides

8 1/2" x 12"

Back

11" x 10 1/2"

Top

8 1/2" x 11 1/4"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

180 lbs

End plates in steam space:

Material of stays

Steel

Area

Diameter at smallest part

2.1"

Area supported by each stay

102 sq. in.

Working pressure by rules

185 lbs

Material of stays

Steel

Material of stays

Steel

Thickness

1 1/2"

Pitch of stays

23" x 13 1/4"

How are stays secured

D.N.W.C.

Working pressure by rules

180 lbs

Material of Front plates at bottom

Steel

Diameter at smallest part

4.36"

Area supported by each stay

419.45 sq. in.

Working pressure by rules

182 lbs

Material of Front plates at bottom

Steel

Working pressure of plate by rules

182 lbs

Material of Lower back plate

Steel

Thickness

3/4"

Material of Lower back plate

Steel

Thickness

1 1/2"

Greatest pitch of stays

14 1/8" x 10 1/8"

Working pressure of plate by rules

182 lbs

Mean pitch of stays

10.53

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/8" x 4 1/4"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

10.53

Pitch across wide water spaces

14 1/2"

Working pressures by rules

182 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

2 @ 8 1/2" x 1"

Working pressure by rules

190 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

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:-

Two bolts & nuts ^{each} for top & bottom ends & main bearings. One set coupling bolts & nuts. One set feed bridge pump valves. One cast iron propeller. Assorted bolts nuts & iron.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO LTD

Geo S Weir.

Manager ^{Manufacturer.} for H.C.

Dates of Survey while building { During progress of work in shops - - } 1914. Sep 16. 25. Oct 1. 9. 13. 14. 16. 20. 22. 27. 28. Nov 4. 5. 10. 11. 13. 18. 19. 25. 26. 30.
{ During erection on board vessel - - - } Dec 3. 4. 11. 22. 27. 29. 31. Jan 12. 20.
Total No. of visits (30)

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "


Dates of Examination of principal parts—Cylinders 11-11-14 Slides 30-11-14 Covers 26-11-14 Pistons 26-11-14 Rods 18-11-14
Connecting rods 18-11-14 Crank shaft 30-11-14 Thrust shaft 11-11-14 Tunnel shafts 18-11-14 Screw shaft 26-11-14 Propeller 30-11-14
Stern tube 26-11-14. Steam pipes tested 29-12-14 Engine and boiler seatings 3-12-14 Engines holding down bolts 24-12-14
Completion of pumping arrangements 12-1-15 Boilers fixed 24-12-14 Engines tried under steam 31-12-14
Main boiler safety valves adjusted 31-12-14. Thickness of adjusting washers P.M.B. P₁₆ 5³/₃₂, C.B.H. P₁₃ 8³/₃₂, Star B.H. P₁₈ 8³/₃₂.
Material of Crank shaft L Steel Identification Mark on Do. 481 N.W.C. Material of Thrust shaft L Steel Identification Mark on Do. 481 N.W.C.
Material of Tunnel shafts L Steel Identification Marks on Do. 481 N.W.C. Material of Screw shafts L Steel Identification Marks on Do. 481 N.W.C.
Material of Steam Pipes Wrought iron lap welded 4" bore x 1/4" thick. Test pressure 540 lbs.
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

No If so, state name of vessel

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

The machinery of this vessel has been built under special survey, the materials and workmanship are of good quality, and the hydraulic tests of the boilers proved satisfactory. The whole of the machinery has been securely fitted on board & tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have record.  L.M.C. 1-15. in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 1. 15.

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 36 : 1 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 23-1-1915
When received, 24-2-1915

Committee's Minute TUE. JAN. 26. 1915

Assigned

Th M.C. 1. 15

MACHINERY CERTIFICATE
WRITTEN



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Foundation