

REPORT ON MACHINERY

No. 25783

Received at London Office SAT. MAR. 23. 1912

Date of writing Report

19

When handed in at Local Office

15. 2. 1912 Port of

Sunderland

No. in Survey held at
Reg. Book.

on the

Sunderland

Date, First Survey

16 Dec 09

Last Survey

9 March 1912

(Number of Visits)

47

Tons

Gross 4793

Net 2672

Master

Gifford

Built at

Sunderland

By whom built

Messrs Short Bros. Ltd

When built

1912

Engines made at

Sunderland

By whom made

North Eastern Marine Eng Co Ltd. (1911)

when made

1912

Boilers made at

Sunderland

By whom made

North Eastern Marine Eng Co Ltd. (1911)

when made

1912

Registered Horse Power

Owners

E. F. & W. Roberts (Mps)

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

484

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

26 x 44 x 43

Length of Stroke

48

Revs. per minute

11

Dia. of Screw shaft

as per rule 14.5
as fitted 15.8

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

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

Length of stern bush

61"

Dia. of Tunnel shaft

as per rule 13.1
as fitted 13.2

Dia. of Crank shaft journals

as per rule 13.1
as fitted 14.4

Dia. of Crank pin

14.4

Size of Crank webs

21 1/2 x 8 3/4

Dia. of thrust shaft under

collars

14 1/4

Dia. of screw

17 1/2

Pitch of Screw

1 1/2

No. of Blades

4

State whether moveable

No

Total surface

104 sq

No. of Feed pumps

Two

Diameter of ditto

9 1/2

Stroke

21

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

Diameter of ditto

5

Stroke

26

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Three

Sizes of Pumps

1 1/2 x 9 1/2 x 10, 1 1/2 x 5 x 6

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

In Engine Room

Three @ 3 1/2" dia in wells & 2 @ 3" in fwd stokehold In Holds, &c. No 1, 1 @ 3 1/2" dia in centre well, 1 @ 3" in centre well, No 2, 1 @ 3 1/2" dia in centre well, No 3, 1 @ 3 1/2" dia in centre well, No 4, 1 @ 3 1/2" in centre well & 1 @ 3 1/2" in tunnel well.

No. of Bilge Injections

1

sizes

6"

Connected to condenser, or to circulating pump

C.P.

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

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

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

Dates of examination of completion of fitting of Sea Connections

19-12-11

of Stern Tube

8-1-12

Screw shaft and Propeller

8-1-12

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 Spence & Sons Ltd

Total Heating Surface of Boilers

6888 sq

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

6-10-11

No. of Certificate

2958

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

51.3 sq

No. and Description of Safety Valves to

each boiler

Two direct spring

Area of each valve

8.29 sq

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

1 1/2 feet

Mean dia. of boilers

14 3/4

Length

11 1/4

Material of shell plates

Steel

Thickness

1 1/8

Range of tensile strength

28 x 32 tons

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 1/4

Pitch of rivets

9 1/2

Lap of plates or width of butt straps

19"

Per centages of strength of longitudinal joint

rivets 85.8
plate 86.5

Working pressure of shell by rules

180.5 lbs

Size of manhole in shell and

16 x 12

Size of compensating ring

dished

No. and Description of Furnaces in each boiler

Three bar

Material

Steel

Outside diameter

39 1/2"

Length of plain part

top
bottom

Thickness of plates

crown 3 1/2
bottom 6 1/4

Description of longitudinal joint

weld

No. of strengthening rings

25"

13"

13"

Working pressure of furnace by the rules

214 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

13/16

Back

3/4

Top

13/16

Bottom

13/16

Pitch of stays to ditto: Sides

10 1/4 x 17 1/8

Back

10 1/2 x 11 1/8

Top

10 1/4 x 10 1/8

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

184 lbs

End plates in steam space:

Material of stays

Steel

Diameter at smallest part

1 1/8

Area supported by each stay

116 sq

Working pressure by rules

184 lbs

Material of stays

Steel

Material

Steel

Thickness

1 1/4

Pitch of stays

20 7/8 x 19 1/8

How are stays secured

D.N. Wash

Working pressure by rules

182 lbs

Material of Front plates at bottom

Steel

Diameter at smallest part

3.03

Area supported by each stay

410 sq

Working pressure by rules

183

Material of Front plates at bottom

Steel

Thickness

3/4

Material of Lower back plate

Steel

Thickness

1 1/2

Greatest pitch of stays

14 1/2 x 11 1/8

Working pressure of plate by rules

182 lbs

Diameter of tubes

2 1/2

Pitch of tubes

3 3/4 x 3 3/4

Material of tube plates

Steel

Thickness: Front

3/4

Back

3/4

Mean pitch of stays

9 3/8 x 1 1/2

Pitch across wide water spaces

13 1/2

Working pressures by rules

222 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 3/8 x 2 1/4

Length as per rule

35 1/4

Distance apart

10 1/2

Number and pitch of stays in each

2 @ 10 1/4

Working pressure by rules

181 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

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

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No donkey boiler fitted.

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 Safety
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	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:— Propeller, propeller shaft, bottom end bearing, Valve spindle, set of coupling bolts & nuts, Two each bolts & nuts for connecting rod top & bottom ends & main bearings, valves all pumps one set each, assorted bolts nuts & iron.

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING CO LTD
Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1909 Dec 16, 1910 Jan 13, Jun 8, 22, 1911 Mar 27, Apr 10, May 1, Jun 12, 16, July 11, 18, 24, Aug 22, 25
During erection on board vessel -- Sep 11, 14, 21, 29, Oct 2, 6, 12, 13, 14, 19, 22, 26, 30, Nov 2, 6, 23, Dec 1, 4, 12, 18, 20, Jan 5, 12, 15, 17, 18, 19, 26, 31
Total No. of visits Feb 9, 17, Mar 19 (47) Is the approved plan of main boiler forwarded herewith yes ✓

Dates of Examination of principal parts—Cylinders 30-10-11 Slides 14-12-11 Covers 26-10-11 Pistons 30-10-11 Rods 2-11-11

Connecting rods 1-5-11 Crank shaft 23-10-11 Thrust shaft 14-12-11 Tunnel shafts 14-12-11 Screw shaft 30-11-11 Propeller 2-11-11

Stern tube 2-11-11 Steam pipes tested 12-12-11 Engine and boiler seatings 19-12-11 Engines holding down bolts 12-1-12

Completion of pumping arrangements 14-2-12 Boilers fixed 12-1-12 Engines tried under steam 19-1-12

Main boiler safety valves adjusted 19-1-12 Thickness of adjusting washers P. Bl. 3/8", C. Bl. 1/2" 3/8", S. Bl. 1/2" 3/8"

Material of Crank shaft 1 Steel Identification Mark on Do. 1899 H.S. Material of Thrust shaft 1 Steel Identification Mark on Do. 1835 H.S.

Material of Tunnel shafts 1 Steel Identification Marks on Do. 1895 H.S. 1846 H.S. 1842 H.S. 1844 H.S. 1840 H.S. Material of Screw shafts 1 Steel Identification Marks on Do. 1845 H.S.

Material of Steam Pipes Lap welded not iron 1/2" & 3/8" thick ✓ Test pressure 540 lbs.

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 test of the boilers proved satisfactory. The whole of the Machinery has been securely fitted on board and satisfactorily tried under steam and is in good & safe working condition and eligible in my opinion to be classed and have record **L.M.C.3-12** in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 3.12.

F.D.

The amount of Entry Fee .. £ 3 :- :-
Special .. £ 44.4 0:
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 21.3.1912
When received, 14.4.1912

Committee's Minute

TUE. MAR. 26. 1912

Assigned

+ LMC 3.12

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



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Foundation