

REPORT ON MACHINERY.

No. 26392
FRI. MAR. 19 1915

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of

Sunderland

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

Jul 28th 1914

Last Survey

Mar 2nd

1915

(Number of Visits

40

on the

New Steel S.S. Francia

Master

J. W. Rubb

Built at

Sunderland

By whom built

Osbourne Graham & Co. 185

Tons

Gross 1166

Net

688

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

Constantine Poreca

Port belonging to

London

Nom. Horse Power as per Section 28

148

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

14" x 28" x 18"

Length of Stroke

33"

Revs. per minute

88

Dia. of Screw shaft

as per rule 9.18

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

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

yes

Length of stern bush

3'-6"

Dia. of Tunnel shaft

as per rule 8.66

as fitted 9.3

Dia. of Crank shaft journals

as per rule 9.09

as fitted 9.3

Dia. of Crank pin

9.3

Size of Crank webs

13" x 5.5"

Dia. of thrust shaft under

collars

9.3

Dia. of screw

12'-0"

Pitch of Screw

13'-0"

No. of Blades

11

State whether moveable

no

Total surface

50 ft

No. of Feed pumps

Two

Diameter of ditto

2.3"

Stroke

15"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

Two

Diameter of ditto

3"

Stroke

15"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Two

Sizes of Pumps

Ballast 4.9 x 9.2, Feed 6.2 x 4.6"

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

In Engine Room

2 @ 2.5" dia @ 1 @ 3" dia in well.

In Holds, &c.

Two @ 2.5" dia in fwd hold.

No. of Bilge Injections

Two

Sizes

3.2"

Connected to condenser, or to circulating pump

Cipp.

Is a separate Donkey Suction fitted in Engine room & size

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

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

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

22-1-15

of Stern Tube

2-2-15

Screw shaft and Propeller

3-2-15

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

J. Spence & Sons Ltd

Newburn.

Total Heating Surface of Boilers

2500 ft

Is Forced Draft fitted

no

No. and Description of Boilers

One single ended.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

8-1-15

No. of Certificate

32-13

Can each boiler be worked separately

yes

Area of fire grate in each boiler

62 ft

No. and Description of Safety Valves to

each boiler

Two spring loaded

Area of each valve

1.06 sq

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

External

Mean dia. of boilers

16'-0"

Length

11'-0"

Material of shell plates

Thickness

1.32"

Range of tensile strength

28.8 to 32.2

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D.R.

long. seams

T.R.D.P.S.

Diameter of rivet holes in long. seams

1.16"

Pitch of rivets

9.2"

Top of plates = width of butt straps

19.3"

Per centages of strength of longitudinal joint

rivets 8.4

plate 86.1

Working pressure of shell by rules

180.2 lbs

Size of manhole in

end

16" x 12"

Size of compensating ring

dished

No. and Description of Furnaces in each boiler

3

Description of longitudinal joint

weld

Material

Length of plain part

top

Thickness of plates

crown 3.1"

bottom 6.1"

Description of longitudinal joint

weld

No. of strengthening rings

25"

Back

25"

Working pressure of furnace by the rules

181 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

2.5"

Back

1.6"

Top

3.2"

Bottom

3.2"

Working pressure by rules

Pitch of stays to ditto: Sides

12.4" x 8.9"

Back

12" x 10.8"

Top

12.4" x 8.9"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

180.5 lbs

End plates in steam space:

Material of stays

Steel

Diameter at smallest part

2.1"

Area supported by each stay

10.5 sq

Working pressure by rules

180.5 lbs

Material of stays

Steel

Thickness

1.32"

Pitch of stays

23" x 20.2"

Material of stays

Steel

Diameter at smallest part

2.29"

Area supported by each stay

11.5 sq

Working pressure by rules

182.8 lbs

Material of Front plates at bottom

Steel

Thickness

3.2"

Greatest pitch of stays

14.2" x 10.8"

Thickness

3.2"

Material of Lower back plate

Steel

Thickness

3.2"

Working pressure of plate by rules

181 lbs

Mean pitch of stays

10.5"

Diameter of tubes

3.4"

Pitch of tubes

4.8"

Pitch across wide water spaces

14.2"

Working pressures by rules

183 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

2 @ 1" x 8.2"

Length as per rule

2'-1.6"

Distance apart

12.4"

Number and pitch of stays in each

Working pressure by rules

182.5 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

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

End plates: Thickness

How stayed

If stiffened with rings

Distance between rings

Working pressure by rules

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 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:—

Two each bolts and nuts for top & bottom ends & main bearings. One set of coupling bolts. One set each feed & bilge pump valves. Quantity of assorted bolts nuts & iron. Cast Iron propeller.

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

Manufacturer.

Geo D Weir Manager

Dates of Survey while building	During progress of work in shops	1914 Jul 28 Aug 10. 20. 25. Sep 9. 16. Oct 1. 9. 14. 22	Nov 4. 5. 11. 18. 18. 27. 28. 30
During erection on board vessel	Dec 5. 10. 11. 15. 16. 17. 24. 29. 30. 1915 Jan 5. 8. 13. 19. 22. 26. Feb 3. 5. 8. 11. 16. 22. Mar		
Total No. of visits	40		

Is the approved plan of main boiler forwarded herewith ☒

Dates of Examination of principal parts—Cylinders	19-1-15	Slides	30-12-14	Covers	30-12-14	Pistons	30-12-14	Rods	19-1-15
Connecting rods	19-1-15	Crank shaft	30-12-14	Thrust shaft	10-12-14	Tunnel shafts	10-12-14	Screw shaft	19-1-15
Propeller	5-1-15	Stern tube	13-1-15	Steam pipes tested	22-1-15	Engine and boiler seatings	22-1-15	Engines holding down bolts	8-2-15
Completion of pumping arrangements	22-2-15	Boilers fixed	8-2-15	Engines tried under steam	11-2-15				
Main boiler safety valves adjusted	11-2-15	Thickness of adjusting washers	Port 1/16" Stand 1/16"						
Material of Crank shaft	Steel	Identification Mark on Do.	6936WC	Material of Thrust shaft	Steel	Identification Mark on Do.	5910WC.WB		
Material of Tunnel shafts	Steel	Identification Marks on Do.	59056-f-4	Material of Screw shafts	Steel	Identification Marks on Do.	5909WC.WB		
Material of Steam Pipes	Wrought iron lapwelded 5" bore x 1/4" thick	Test pressure	540 lbs per sq"						

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 secured in place & tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have record **L.M.C 3-15** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C 3.15.

J.M.C.

19/3/15

William Butler

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

The amount of Entry Fee	£ 2 : 0 : 0	When applied for	1.8. MAR 1915
Special	£ 22 : 4 : 0	When received	3. APR 1915
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute TUE. MAR 23. 1915

Assigned

+ L.M.C 3.15

Lloyd's Register Foundation