

REPORT ON MACHINERY.

No. 24044. TUES. 6 APR 1909

Received at London Office

SAT. 1 MAY 1909

Date of writing Report

When handed in at Local Office

5th Apr 1909

Port of

Sunderland

No. in Survey held at Reg. Book.

Sunderland

Date, First Survey

16th Dec. 1908

Last Survey

29th Mar. 1909.

60 supplied the

S. S. Magdalena

(Hull) " " " 5

Gross Tons Net Tons

Master

Built at Stockton

By whom built Messrs. Craig Taylor & Co.

When built 1909

Engines made at

Sunderland

By whom made

North Eastern Marine Engineering Co. Ld.

when made 1909

Boilers made at

Sunderland

By whom made

Sitto

when made

Registered Horse Power

Owners

A. S. Jensen

Port belonging to

Fernewater

Nom. Horse Power as per Section 28

209

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Inverted triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 21", 35", 57"

Length of Stroke 39"

Revs. per minute 65

Dia. of Screw shaft

as per rule 12.54"

Material of screw shaft Iron

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

no, 2 liners

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

no

Length of stern bush

4' 3"

Dia. of Tunnel shaft

as per rule 10.13"

Dia. of Crank shaft journals

as per rule 10.63"

Dia. of Crank pin

10 3/4"

Size of Crank webs

16 x 6 3/4"

Dia. of thrust shaft under

collars

10 3/4"

Dia. of screw

15.6"

Pitch of Screw

16.0"

No. of Blades 4

State whether moveable

no

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

6 x 7 x 9, 5 1/2 x 3 1/2 x 5 7/8

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

In Engine Room

3 of 3"

In Holds, &c. Fore hold 2 @ 3 1/2"; aft hold 3 @ 3 1/2"

Funnel with one @ 3 1/2"

No. of Bilge Injections

1 sizes 4"

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

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

nil

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

16.2.09

of Stern Tube

22.3.09

Screw shaft and Propeller

22.3.09

Is the Screw Shaft Tunnel watertight

see hull report

Is it fitted with a watertight door

yes

worked from top platform

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel

J. Spencer & Sons

Total Heating Surface of Boilers

3248 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

2 S. E. Cyl. built

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

8.3.09

No. of Certificate

2752

Can each boiler be worked separately

yes

Area of fire grate in each boiler

40 sq ft

No. and Description of Safety Valves to

each boiler

2 spring

Area of each valve

5.94 sq in

Pressure to which they are adjusted

165 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

14"

Mean dia. of boilers

13.7"

Length

10.0"

Material of shell plates

steel

Thickness

1"

Range of tensile strength

28 3/4 / 32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

d.v. lap

long. seams

l.v.d. & s.

Diameter of rivet holes in long. seams

1 3/32"

Pitch of rivets

7 7/8"

Lap of plates or width of butt straps

16"

Per centages of strength of longitudinal joint

rivets 89.1

plate 86.1

Working pressure of shell by rules

166 lbs

Size of manhole in shell

16 x 12"

end

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Brighton

Material

steel

Outside diameter

38 3/4"

Length of plain part

top

Thickness of plates

crown 1/16"

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

162.4 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

3/4"

Back

1/16"

Top

3/4"

Pitch of stays to ditto: Sides

13 x 8 1/2"

Back

9 1/4 x 9 1/4"

Top

13 x 8 1/2"

If stays are fitted with nuts or riveted heads

nuts

Material of stays

steel

Diameter at smallest part

1 1/4"

Area supported by each stay

5-110.5

Working pressure by rules

13-188.2

End plates in steam space:

Material

steel

Thickness

1/4"

Pitch of stays

24 1/2 x 18"

How are stays secured

nut & washer

Diameter at smallest part

7.24"

Area supported by each stay

441 sq in

Working pressure by rules

170 lbs

Material of Front plates at bottom

steel

Thickness

3/4"

Material of Lower back plate

steel

Thickness

3/2"

Greatest pitch of stays

14 3/4 x 9 1/4"

Diameter of tubes

5 1/4"

Pitch of tubes

4 1/2 x 4 3/4"

Material of tube plates

steel

Thickness: Front

3/4"

Back

3/4"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

164.9 lbs

Girders to Chamber tops: Material

steel

Thickness of girder at centre

8 1/4 x 2"

Length as per rule

30 1/2"

Distance apart

13"

Number and pitch of stays in each

2 - 8 1/2"

Working pressure by rules

165 lbs

Superheater or Steam chest; how connected to boiler

no

Can the superheater be shut off and the boiler worked

separately

Diameter

</

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
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
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:— 2 Top end, 2 bottom end, 2 main bearing and 1 set of coupling bolts, 1 set of feed and bilge pump valves, 1 Propeller, bolts + nuts assorted and iron of sizes

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

Dates of Survey while building	During progress of work in shops - -	1908: Dec 9, 21, 31	1908: Jan 6, 9, 13, 15, 18, 19, 21, 25, 26, 27, 29	Feb. 2, 3, 5, 8, 9, 10, 15, 18, 19, 22, 23, 24, 26	Mar. 1, 2, 4, 5, 8, 11, 15, 17
	During erection on board vessel - -	22, 25, 23, 26, 29	(Mdb.)	1909 Feb. 16, 22	Apr. 2, 8, 16
	Total No. of visits	41	(Mdb.) 5	Is the approved plan of main boiler forwarded herewith	

Dates of Examination of principal parts—Cylinders 19-2-09 Slides 23-2-09 Covers 15-2-09 Pistons 15-2-09 Rods 24-2-09
 Connecting rods 15-2-09 Crank shaft 18-2-09 Thrust shaft 8-3-09 Tunnel shafts 11-3-09 Screw shaft 19-2-09 Propeller 19-2-09
 Stern tube 18-2-09 Steam pipes tested 22-3-09 Engine and boiler seatings 16-2-09 Engines holding down bolts 22-3-09
 Completion of pumping arrangements 25-3-09 Boilers fixed 22-3-09 Engines tried under steam 25-3-09
 Main boiler safety valves adjusted 25-3-09 Thickness of adjusting washers P.F. 1/4", P.A. 3/32", S.F. 1/4", S.A. 1/4"
 Material of Crank shaft **Steel** Identification Mark on Do. 547B Material of Thrust shaft **steel** Identification Mark on Do. KH. 42
 Material of Tunnel shafts **Iron** Identification Marks on Do. 554B Material of Screw shafts **Iron** Identification Marks on Do. 549A
 Material of Steam Pipes **Copper** Test pressure 1400 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam and worked satisfactorily*

A report on the Electric Light will be forwarded in due course

It is submitted that this vessel is eligible for **THE RECORD + LMC 4.09.**

Elec. light

*We beg to recommend that this vessel is eligible in our opinion to have the record **RLMC 4.09** in the Register Book*

The amount of Entry Fee	£ 2 : 0 : 0	When applied for, 3. 4. 1909
Special	£ 30 . 19 : 0	
Donkey Boiler Fee	£ : : :	When received, 14/4/09
Travelling Expenses (if any)	£ : : :	Per spec. No. 14.4.09

Committee's Minute

TUES. 4 MAY 1909

Assigned

+ Lmc 4.09

Law Coomber & W. Morrison
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.



Certificate (if required) to be sent to Sunderland.

The Surveyors are requested not to write on or below the space for Committee's Minute.