

## REPORT ON BOILERS.

No. 23173

Port of

Received at London Office

TUES. MAR 26 1907

No. in Survey held at

Sunderland

Date, first Survey 15<sup>th</sup> March 1906 Last Survey 1<sup>st</sup> March 1907

Reg. Book.

(Number of Visits 53)

Tons } Gross  
Net

on the

Steel Screw Steamer SYGNA

Master

Built at Middlesbrough

By whom built Sir R. Dixon &amp; Co. (Ld)

When built 1907

Engines made at

Sunderland

By whom made

The N.E. Marine Eng<sup>y</sup> Co. Ltd. when made 1907

Boilers made at

Sunderland

By whom made

The N.E. Marine Eng<sup>y</sup> Co. Ltd. when made 1907

Registered Horse Power

Owners

Port belonging to

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.

Manufacturers of Steel John Spencer &amp; Co. Ltd.

(Letter for record S)

Total Heating Surface of Boilers 1350

Is forced draft fitted No

No. and Description of

Boilers

One, single ended, light multi

Working Pressure 180 lb

Tested by hydraulic pressure to 360 lb

Date of test 20/10/06

No. of Certificate 2539

Can each boiler be worked separately Yes

Area of fire grate in each boiler 34

No. and Description of

safety valves to each boiler Two, direct spring

Area of each valve 3.98

Pressure to which they are adjusted 185 lb

Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or woodwork 18

(Rule Mean dia. of boilers 11-10 8)

Length 10-6

Material of shell plates steel

Thickness 15/16

Range of tensile strength 29-32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Lap DR

long. seams DRB-T.R.

Diameter of rivet holes in long. seams 1 1/8

Pitch of rivets 8 1/8

Lap of plates or width of butt straps 14

Per centages of strength of longitudinal joint

rivets 88.88

Working pressure of shell by

rules 180 lb

Size of manhole in shell 16 x 12

Size of compensating ring 7 x 15/16

No. and Description of Furnaces in each

boiler

Two plain

Material steel

Outside diameter 40 1/4

Length of plain part

top 6-4 3/16

Thickness of plates

crown 3/4

bottom 1/4

Description of longitudinal joint Weld

No. of strengthening rings

Working pressure of furnace by the rules 184.8 lb

plates: Material steel

Thickness: Sides 11/16

Back 13/16

Top 11/16

Bottom 1/8

Pitch of stays to ditto: Sides 8 3/4 x 10 1/8

Back 2 x 10 1/8

Top 8 3/4 x 10

If stays are fitted with nuts or riveted heads No

Working pressure by rules 182.5 lb

Material of stays steel

Diameter at

smallest part 2 1/4

Area supported by each stay 5.5/22

Working pressure by rules 180 lb

End plates in steam space: Material steel

Thickness 1 1/2

Pitch of stays 21 x 16 1/8

How are stays secured DR + W

Working pressure by rules 180.6 lb

Material of stays steel

Diameter at smallest part 2 1/4

Area supported by each stay 340

Working pressure by rules 180.1 lb

Material of Front plates at bottom steel

Thickness 1 1/8

Material of

Lower back plate steel

Thickness 29/32

Greatest pitch of stays 14 1/2 x 10 1/8

Working pressure of plate by rules 181.5 lb

Diameter of tubes 3 1/4

Pitch of tubes 4 1/2 x 4 1/2

Material of tube plates steel

Thickness: Front 13/16

Back 13/16

Mean pitch of stays 10 1/8

Pitch across water

spaces 14 1/2

Working pressures by rules 215.7 lb

Girders to Chamber tops: Material steel

Depth and thickness

girders at centre 8 1/4 x 1 1/2

Length as per rule 28 1/8

Distance apart 10

Number and pitch of Stays in each Two 8 1/4

Working pressure by rules 184 lb

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—

No.

Description

Manufacturers of steel

Made at

By whom made

When made

Where fixed

Working pressure

tested by hydraulic pressure to

No. of Certificate

Fire grate area

Description of safety valves

No. of safety valves

Area of each

Pressure to which they are adjusted

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

Stayed by

Diameter of uptake

Thickness of uptake plates

Thickness of water tubes

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO. LTD.

Manufacturer.

Dates

of Survey

while

building

During progress of work in shops --

During erection on board vessel --

Total No. of visits 53

1906, Mch 15, May 16, July 2, 17, 18, 24, Aug 5, 9, 14, 16, 20, 23, 25, 27, 28, 30, 31, Sept 3, 5, 7, 8, 12, 15, 19, 21, 25, 27, Oct

2, 4, 8, 9, 10, 11, 13, 16, 17, 19, 20, 23, 25, Nov 1, 2, 9, 27 - 07 - Feb 7, 8, 12, 14, 15, 20, 21, 25, Mch 1

Is the approved plan of main boiler forwarded herewith Yes

Lloyd's Register  
Foundation



**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

This Auxiliary Boiler has been constructed under Special Order the material & workmanship sound & good & has been tested by Hydraulic pressure in accordance with the Rules & its safety valves have been adjusted to their working pressure under steam & casing gear fitted.

RETAIN

A  
M  
M  
M  
C

Certificate (if required) to be sent to

The amount of Entry Fee...	£	:	:	When applied for,
Special ... ..	£	:	:	19
Donkey Boiler Fee ...	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	19

*A. D. D.*  
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute TUES. 26 MAR 1903

Assigned