

Rpt. 5a.

## REPORT ON BOILERS.

No. 8545.

THU. JUL. 16. 1914

Received at London Office

TUE. SEP. 15. 1914

Date of writing Report July 14 1914 When handed in at Local Office 15.7.1914

Port of MIDDLESBROUGH

No. in Survey held at Middlesbrough

Date, First Survey 28<sup>th</sup> Nov. 1913.Last Survey 27<sup>th</sup> February 1914

Reg. Book.

on the Main Boiler No 2222 of S.T. "E.illus"

(Number of Visits 15.)

Gross Tons }  
Net Tons }

Master

Built at Middlesbrough By whom built Smiths Dock Co. Ltd.

When built 1914

Engines made at Middlesbrough

By whom made Smiths Dock Co. Ltd.

When made 1914-9.

Boilers made at Middlesbrough

By whom made Richardsons, Westgarth &amp; Co. Ltd.

When made 1914

Registered Horse Power

Owners

The Consolidated Ste. Fishing &amp; Ice Co. Ltd.

Port belonging to

Grimsby

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY—

Manufacturers of Steel

John Spencer &amp; Sons Ltd.

Letter for record

(S) Total Heating Surface of Boilers 1210 sq. ft. Is forced draft fitted Two

No. and Description of

Boilers One S.T. Cyl. boiler

Working Pressure 180 lb

Tested by hydraulic pressure to 360 lb

Date of test 27.2.14

No. of Certificate 5244

Can each boiler be worked separately ✓

Area of fire grate in each boiler 38 1/2 sq. ft.

No. and Description of

Safety valves to each boiler two spring loaded

Area of each valve 3.976 sq. in.

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

Smallest distance between boilers or uptakes and bunkers or woodwork eleven inches

Mean dia. of boilers

12'-0"

Length 10'-0"

Material of shell plates Steel

Thickness 1"

Range of tensile strength 28-32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams B.P. Lap long. seams A.B.S. 5 Rivets

Diameter of rivet holes in long. seams 1 1/16"

Pitch of rivets 7 3/8"

Top of plates or width of butt straps 1'-4 3/4"

Per centages of strength of longitudinal joint

rivets 89.7%

plate 85.6%

Working pressure of shell by

Rules 183 lb

Size of manhole in shell 19 1/2" x 15 1/2"

Size of compensating ring 36" x 30" x 1 1/2"

No. and Description of

Furnaces in each

Boiler Two plain

Material Steel

Outside diameter 3'-7 5/8"

Length of plain part

top 6'-0"

Thickness of plates

crown 13/16"

bottom 9/16"

Description of longitudinal joint Welded

No. of strengthening rings ✓

Working pressure of furnace by the rules

195 lb

Combustion chamber

plates: Material Steel

Thickness: Sides 1/16"

Back 1/16"

Top 1/16"

Bottom 1 1/32"

Pitch of stays to ditto: Sides

10" x 8 1/2"

Back 9 3/4" x 8 1/2"

Top 9 1/2" x 9"

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules

190 lb

Material of stays Steel

Diameter at

smallest part 2.1"

Area supported by each stay 85"

Pitch of stays 16" x 15 1/2"

How are stays secured B.P. rivets

Working pressure by rules

191 lb

Material of stays Steel

Diameter at

smallest part 5.03"

Area supported by each stay 252"

Lower back plate Steel

Thickness 1"

Greatest pitch of stays 15 1/4" x 9 3/4"

Working pressure of plate by rules

212 lb

Diameter of tubes 3 1/4"

Pitch of tubes 4 5/8" x 4 1/2"

Material of tube plates Steel

Thickness: Front 1 1/32"

Back 13/16"

Mean pitch of stays 10 1/4"

Pitch across wide

water spaces 14"

Working pressures by rules 195 lb

Girders to Chamber tops: Material Steel

Depth and thickness of

girder at centre 7 1/2" x 1 3/4"

Length as per rule 2'-6"

Distance apart 9"

Number and pitch of Stays in each 20 9 1/2"

Working pressure by rules 190 lb

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 ✓

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 ✓

For and on behalf of

RICHARDSONS, WESTGARTH &amp; Co. Ltd.

The foregoing is a correct description,

E. Hall-Brown, Manufacturer.

MANAGER.

SURVEY REQUEST  
NO. 872 ATTACHED.

The foregoing is a correct description,

E. Hall-Brown, Manufacturer.

MANAGER.

Dates of Survey: During progress of work in shops - 1913. Nov. 28 Dec. 1. 10. 12. 19. 22 1914. Jan. 8. 12. 21. 26 Is the approved plan of boiler forwarded herewith Yes

while building: During erection on board vessel - Feb. 2. 12. 17. 25. 27

Total No. of visits 15

## GENERAL REMARKS

(State quality of workmanship, opinions as to class, &amp;c.)

This boiler has been constructed under Special Survey, is of good material and workmanship, and has been tested by hydraulic pressure with satisfactory results.

Survey Fee ...

£ 4 : 1 :

When applied for, 191

Travelling Expenses (if any) £ :

When received, 191

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

Committee's Minute

FRI. SEP 18. 1914

Assigned

002385-002400-0196

Lloyd's Register

Foundation