

## REPORT ON BOILERS.

 No. 14213  
 27 DEC 1930

16 SEP 1930

of writing Report

11. 9. 30

When handed in at Local Office

11. 9. 30

Port of MIDDLESBROUGH.

 in Survey held at  
 Book.  
 (Number of Visits)

STOCKTON.

Göteborg

Date First Survey

30 May/30

Last Survey

11. 9. 1930

21 on the

Boiler for Antikolag Gotaverken

Twin L. Motorvagn "NORDANVIK"

(Number of Visits) 13+3

Gross 8233

Net 4808

ter

Built at

Göteborg

By whom built

AB. Gotaverken

Yard No. 438

When built 1930

Diameter made at

Göteborg

By whom made

AB. Gotaverken

Engine No. 1921

When made 1930

er made at

Stockton

By whom made

Riley Bros. (Boilermakers) Ltd

Boiler No. 3949

When made 1930.

inal Horse Power

634

Owners

Norrköpings Rederiaktut

Port belonging to

Norrköping.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

 Manufacturers of Steel  
 Heating Surface of Boilers

Witkowitzen Bergbau und Eisenhütten Gesellschaft

(Letter for Record S.)

Heating Surface of Boilers

1415 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

Oil or exhaust gas from main engine.

Description of Boilers

1 S.B.

Working Pressure 180 lbs.

by hydraulic pressure to

320 lbs.

Date of test

11. 9. 30

No. of Certificate

6819.

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

Exhaust gas from main engine

No. and Description of safety valves to each boiler

Double spring loaded

Area of each set of valves per boiler

per Rule

as fitted

3"

Pressure to which they are adjusted

185 lbs.

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No main boilers fitted

Smallest distance between boilers or uptakes and

Bunkers of woodwork

700 mm

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

11'-8"

Length

11'-3"

Shell plates: Material

Steel

Tensile strength

29/33

Thickness of shell plates

15/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

inter

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

plate

rivets

65.1

Percentage of strength of circ. intermediate seam

plate

rivets

42.5

Percentage of strength of longitudinal joint

plate

rivets

86.7

Working pressure of shell by Rules

181 lbs.

2 c.f.

Thickness of butt straps

outer

inner

3/4"

No. and Description of Furnaces in each Boiler

2 c.f.

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-7 3/8"

Length of plain part

top

bottom

7/8"

Description of longitudinal joint

Weld.

Dimensions of stiffening rings on furnace or c.e. bottom

Working pressure of furnace by Rules

188 lbs.

26/30

Thickness

7/8"

Pitch of stays

16 1/2" x 1 1/4"

End plates in steam space: Material

Steel

Tensile strength

26/30

Working pressure by Rules

180 lbs.

Thickness

7/8"

How are stays secured

D.N.W.

Tube plates: Material

Steel

Tensile strength

26/30

Thickness

7/8"

Working pressure

233 lbs.

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

13' x 4"

Working pressure

273

Depth and thickness of girder

28/32

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Distance apart

8 1/2"

No. and pitch of stays

2'-6"

At centre

7 1/2" x 3/4" (drills)

Length as per Rule

2'-6"

Working pressure by Rules

187 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

1 1/2"

Back

1 1/2"

Top

1 1/2"

Bottom

1 1/2"

Pitch of stays to ditto: Sides

10' x 9"

Back

10' x 9"

Top

8 1/2' x 9"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

182 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

7/8"

Pitch of stays at wide water space

13' x 9"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

229 lbs.

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay, or Over threads

2 1/2"

No. of threads per inch

6.

Area supported by each stay

226 sq.

Working pressure by Rules

196 lbs.

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part, or Over threads

1 3/4"

No. of threads per inch

9.

Area supported by each stay

87.6 sq.

2020



Working pressure by Rules **207 lbs** Are the stays drilled at the outer ends **no.** Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8" No. of threads per inch 9. Working pressure by Rules **211 lbs**. Tubes: Material **iron** External diameter { Plain **2 1/2" to 2 3/4"** Stay **2 1/2" to 2 3/4"** Thickness { **9/16"** No. of threads per inch 9. Pitch of tubes **3 1/4" x 3 1/2"** Working pressure by Rules **p. 230 lbs. s. 235 lbs.** Manhole compensation: Size of opening **48-1 1/2"** shell plate **20" x 16"** Section of compensating ring **8" x 1 1/4"** No. of rivets and diameter of rivet holes **48-1 1/2"** Outer row rivet pitch at ends **8 1/4"** Depth of flange if manhole flanged **8 1/4"** Steam Dome: Material **iron** Tensile strength **84,000** Thickness of shell **1/2"** Description of longitudinal joint **butt** Diameter of rivet holes **1/2"** Pitch of rivets **2"** Percentage of strength of joint { Plate Rivets **75%** Internal diameter **20"** Working pressure by Rules **211 lbs** Thickness of crown **1/2"** No. and diameter of stays **10** Inner radius of crown **10"** Working pressure by Rules **211 lbs** How connected to shell **by stays** Size of doubling plate under dome **1/2"** Diameter of rivet holes and of rivets in outer row in dome connection to shell **1/2"**

### Type of Superheater

Number of elements **1** Material of tubes **iron** Manufacturers of { Tubes Steel castings Internal diameter and thickness of tubes **2 1/2" x 1/2"** Material of headers **iron** Tensile strength **84,000** Thickness **1/2"** Can the superheater be shut off the boiler be worked separately **yes** Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **yes** Area of each safety valve **10 sq. in.** Are the safety valves fitted with easing gear **yes** Working pressure **207 lbs** Rules **10** Pressure to which the safety valves are adjusted **211 lbs** Hydraulic test pressure **235 lbs** tubes **10** castings **10** and after assembly in place **235 lbs** Are drain cocks or valves to free the superheater from water where necessary **yes**

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with **yes**

**Yes, FOR RILEY BROS. (BOILERMAKERS) LIMITED, The foregoing is a correct description, J. H. Shields.**

Dates of Survey { During progress of work in shops - **1930 May 30 Jun 3 5 13 22 26 Aug 7 26 29** Are the approved plans of boiler and superheater forwarded herewith **yes** while building { During erection on board vessel - **1930 Oct 30 Dec 6, 10** (If not state date of approval.) **3. 9.** Total No. of visits **13**

Is this Boiler a duplicate of a previous case **yes** If so, state Vessel's name and Report No. **Riley 5944 Sub. Rpt. 13981.**

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

The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and approved Plans. It is being shipped to Sweden. This Donkey boiler has been fitted on board this vessel under my inspection and to my satisfaction.

Survey Fee **9-8-0** When applied for **Monthly** Travelling Expenses (if any) **0** When received **0**

Committee's Minute **FRI. 16 JAN 1931**

Assigned **See other Rpt for J.E. 8765**

**J. H. Shields**  
Engineer Surveyor to Lloyd's Register of Shipping.