

REPORT ON BOILERS.

No. 14210
27 DEC 1930

dyot. No. 8165.

Received at London Office 11 SEP 1930

Göteborg 22.12.1930

Report of writing Report 9.9.1930 When handed in at Local Office 9.9.1930. Port of MIDDLESBROUGH.

Survey held at STOCKTON & Göteborg Date, First Survey 30 May/30 Last Survey 9.9.1930

on the [boiler for Auktöbolag Gotaverken] Twin S. Motorvessel "NORDANVIK" (Number of Visits 14+3) Gross 8933 Tons Net 4808

Built at Göteborg By whom built AB Gotaverken Yard No. 438 When built 1930

Engines made at Göteborg By whom made AB Gotaverken Engine No. 1921/1922 When made 1930

Boilers made at Stockholm By whom made Riley Bros. (Boilermakers) Ltd Boiler No. 5948 When made 1930

Indicated Horse Power 634 Owners Norrköpings Rederiaktieförbund Port belonging to Norrköping.

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Witkowitz Bergbau und Eisenhütten Gesellschaft (Letter for Record S.)

Total Heating Surface of Boilers 1415 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil or exhaust gas from main eng.

No. and Description of Boilers 1 SB. Working Pressure 180 lbs.

Tested by hydraulic pressure to 320 lbs. Date of test 9.9.30. No. of Certificate 6818. Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 15 sq. ft. No. and Description of safety valves to each boiler Double spring loaded

Pressure of each set of valves per boiler 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 or woodwork 700 mm Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 11'-8" Length 11'-8" Shell plates: Material Steel Tensile strength 29/33 D.R.

Thickness 1 1/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end 3 1/2" inter 7 1/16"

Working seams T.R.D.A.S. (5 rivets) Diameter of rivet holes in circ. seams 1 3/32" long. seams 1" Pitch of rivets 7 1/16"

Percentage of strength of circ. end seams 42.5% Percentage of strength of circ. intermediate seam 86.7%

Percentage of strength of longitudinal joint 89.4% Working pressure of shell by Rules 181 lbs.

Thickness of butt straps outer 3/4" inner 7/8" 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 9" bottom 7" Thickness of plates crown 9/16" bottom 7/16" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 188 lbs.

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 7/8" Pitch of stays 16 1/2" x 14"

How are stays secured D.N. & W. Working pressure by Rules 180 lbs.

Tube plates: Material Steel Tensile strength 26/30 Thickness 7/8" Working pressure front 233 lbs. back 273 ..

Mean pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 13" x 7" Working pressure front 233 lbs. back 273 ..

Girders to combustion chamber tops: Material Steel Tensile strength 28/32! Depth and thickness of girder

at centre 7 1/2" x 3/4" (double) Length as per Rule 2'-6" Distance apart 8 1/2" No. and pitch of stays

in each 2-9" Working pressure by Rules 187 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 1 1/8"

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"

Thickness 7/8" Lower back plate: 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

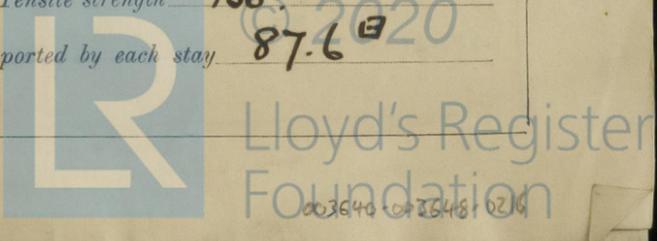
Working Pressure 229 lbs. Main stays: Material Steel Tensile strength 28/32

Diameter At body of stay 2 1/2" No. of threads per inch 6 Area supported by each stay 226 sq. in.

Working pressure by Rules 196 lbs. Screw stays: Material Steel Tensile strength 26/30

Diameter At turned off part 1 3/4" No. of threads per inch 9 Area supported by each stay 87.6 sq. in.

To be checked on return



Working pressure by Rules **207 lb.** Are the stays drilled at the outer ends **no**. Margin stays Diameter ^{At turned off part,} **1 3/4"**
 No. of threads per inch **9**. Area supported by each stay **100.7 sq** Working pressure by Rules **211 lb.**
 Tubes: Material **iron** External diameter ^{Plain} **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 lb. & 235 lb.** Manhole compensation: Size of opening **7"**
 shell plate **20" x 16"** Section of compensating ring **8" x 1 1/2"** No. of rivets and diameter of rivet holes **48 - 1 3/2"**
 Outer row rivet pitch at ends **8 1/4"** Depth of flange if manhole flanged **-** Steam Dome: Material **-**
 Tensile strength Thickness of shell Description of longitudinal joint
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint ^{Plate}
 Internal diameter Working pressure by Rules Thickness of crown ^{Rivets}
 stays Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and
 of rivets in outer row in dome connection to shell

Type of Superheater

Number of elements Material of tubes Manufacturers of ^{Tubes} ^{Steel castings} Internal diameter and thickness of tubes
 Material of headers Tensile strength Thickness Can the superheater be shut off
 the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
 Area of each safety valve Are the safety valves fitted with easing gear Working pressure as
 Rules Pressure to which the safety valves are adjusted Hydraulic test pressure
 tubes castings and after assembly in place Are drain cocks or valves
 to free the superheater from water where necessary

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

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

Dates of Survey ^{During progress of work in shops - -} **1930 May 30 Jun 5, 12, 23, 26, 27, 11, 16** Are the approved plans of boiler and superheater forwarded herewith **3-9-30**
 while building ^{During erection on board vessel - - -} **Aug. 7, 26, 29, Oct 3, 5-9** (If not state date of approval.)
1930 Oct 30, Dec 6, 10 Total No. of visits **14 + 3**

Is this Boiler a duplicate of a previous case **Yes**. If so, state Vessel's name and Report No. **Riley 5944, Hab 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 Rule and approved Plan. It is being shipped to Sweden.
 This Donkey boiler has been fitted on board this vessel under my inspection & to my satisfaction.

Survey Fee £ **9.8-0.** When applied for, **Monthly**
 Travelling Expenses (if any) £ : : When received, **19**

P. J. Ma...
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 16 JAN 1931**
 Assigned **See other J.C. Rpt fol. 8165**