

REPORT ON BOILERS.

No. 30436

Received at London Office

16 AUG 1930

Date of writing Report

193

When handed in at Local Office

11 AUG 1930

Port of SUNDERLAND.

No. in
eg. Book.

Survey held at SUNDERLAND.

Date, First Survey

Last Survey

8 Aug 1930

on the S.S. "SEA RAMBLER."

(Number of Visits

Gross 2327.

Tons

Net 1374.

Master

Built at SUNDERLAND.

By whom built SWAN HUNTER, WIGHAM
RICHARDSON

Yard No. 1449 When built 1930.

Engines made at SUNDERLAND.

By whom made N.E. MARINE ENGINEERING CO. LD.

Engine No. 2762 When made 1930

Boilers made at SUNDERLAND.

By whom made N.E. MARINE ENGINEERING CO. LD.

Boiler No. 2762 When made 1930

Nominal Horse Power

217.

Owners DOVER NAVIGATION CO. LD.

Port belonging to DOVER.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel WITKOWITZER BERGBAU & EISENHÜTTEN-GEWERKSCHAFT and STEEL CO. OF SCOTLAND Letter for Record (S) ✓

Total Heating Surface of Boilers 3730 ϕ ✓ Is forced draught fitted No. Coal or Oil fired COAL. ✓No. and Description of Boilers 2 CYLINDRICAL MULTITUBULAR MARINE TYPE. 25B Working Pressure 180 $\frac{1}{2}$ lb. ✓Tested by hydraulic pressure to 320 $\frac{1}{2}$ lb. Date of test 10-7-30 No. of Certificate 4107 Can each boiler be worked separately Yes. ✓Area of Firegrate in each Boiler 41 $\frac{1}{4}$ ϕ No. and Description of safety valves to each boiler 2 SPRING LOADED. ✓Area of each set of valves per boiler $\left\{ \begin{array}{l} \text{per Rule } 11.95 \text{ } \phi \\ \text{as fitted } 14.12 \text{ } \phi \end{array} \right.$ Pressure to which they are adjusted 135 $\frac{1}{2}$ 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 $\left\{ \begin{array}{l} \text{pocket} \\ \text{or woodwork} \end{array} \right.$ 16" Is oil fuel carried in the double bottom under boilers No. ✓

Smallest distance between shell of boiler and tank top plating 23" Is the bottom of the boiler insulated No. ✓

Largest internal dia. of boilers 13'-9 $\frac{3}{16}$ " ✓ Length 10'-6" ✓ Shell plates: Material STEEL Tensile strength 24/33 Tms. ✓Thickness 1 $\frac{3}{32}$ " ✓ Are the shell plates welded or flanged No. Description of riveting: circ. seams $\left\{ \begin{array}{l} \text{end } 11 \text{ } \phi \\ \text{inter. } 3 \frac{1}{2} \text{ } \phi \end{array} \right.$ ✓long, seams T.R.D.B.S. ✓ Diameter of rivet holes in $\left\{ \begin{array}{l} \text{circ. seams } 1 \frac{1}{32} \text{ } \phi \\ \text{long. seams } 1 \frac{1}{32} \text{ } \phi \end{array} \right.$ Pitch of rivets $\left\{ \begin{array}{l} \text{end } 3 \frac{1}{2} \text{ } \phi \\ \text{inter. } 8 \frac{3}{16} \text{ } \phi \end{array} \right.$ ✓Percentage of strength of circ. end seams $\left\{ \begin{array}{l} \text{plate } 66.9 \\ \text{rivets } 43.5 \end{array} \right.$ Percentage of strength of circ. intermediate seam $\left\{ \begin{array}{l} \text{plate } - \\ \text{rivets } - \end{array} \right.$ ✓Percentage of strength of longitudinal joint $\left\{ \begin{array}{l} \text{plate } 85.87 \\ \text{rivets } 87.18 \\ \text{combined } 89.18 \end{array} \right.$ Working pressure of shell by Rules 180.2 $\frac{1}{2}$ lb. ✓Thickness of butt straps $\left\{ \begin{array}{l} \text{outer } 2 \frac{7}{32} \text{ } \phi \\ \text{inner } 2 \frac{1}{32} \text{ } \phi \end{array} \right.$ No. and Description of Furnaces in each Boiler 3 CORRUGATED, DEIGHTON SECTION. ✓Material STEEL Tensile strength 24/30 Tms. Smallest outside diameter 3'-0 $\frac{1}{16}$ " ✓Length of plain part $\left\{ \begin{array}{l} \text{top } - \\ \text{bottom } - \end{array} \right.$ ✓ Thickness of plates $\left\{ \begin{array}{l} \text{crown } 15 \text{ } \phi \\ \text{bottom } 32 \end{array} \right.$ ✓ Description of longitudinal joint WELD. ✓Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 183 $\frac{1}{2}$ lb. ✓End plates in steam space: Material STEEL Tensile strength 24/30 Tms. Thickness 1 $\frac{1}{16}$ " Pitch of stays 23 $\frac{7}{8}$ " x 18" ✓How are stays secured D. NUTS. ✓ Working pressure by Rules 180.5 $\frac{1}{2}$ lb. ✓Tube plates: Material $\left\{ \begin{array}{l} \text{front } \text{STEEL} \\ \text{back } - \end{array} \right.$ Tensile strength $\left\{ \begin{array}{l} 24/30 \text{ Tms} \\ - \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 7/8 \text{ } \phi \\ 29/32 \end{array} \right.$ ✓Mean pitch of stay tubes in nests 10 $\frac{3}{4}$ " Pitch across wide water spaces 14 $\frac{1}{2}$ " x 9" Working pressure $\left\{ \begin{array}{l} \text{front } 191 \text{ } \frac{1}{2} \text{ lb.} \\ \text{back } 189.4 \text{ } \frac{1}{2} \text{ lb.} \end{array} \right.$ ✓

Girders to combustion chamber tops: Material STEEL. Tensile strength 24/32 Tms. Depth and thickness of girder

at centre 8 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " ✓ Length as per Rule 30.43 Distance apart 10" No. and pitch of staysin each 2 at 9 $\frac{1}{2}$ " ✓ Working pressure by Rules 184 $\frac{1}{2}$ lb. Combustion chamber plates: Material STEEL. ✓

Tensile strength 24/30 Tms. Thickness: Sides 23/32" Back 29/32" Top 23/32" Bottom 23/32" ✓

Pitch of stays to ditto: Sides 10 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ " Back 11 $\frac{1}{2}$ " x 10 $\frac{1}{16}$ " Top 10" x 9 $\frac{1}{2}$ " Are stays fitted with nuts or riveted over No & 5. ✓Working pressure by Rules 181 $\frac{1}{2}$ lb. Front plate at bottom: Material STEEL Tensile strength 24/30 Tms. ✓

Thickness 7/8" Lower back plate: Material STEEL Tensile strength 24/30 Tms Thickness 7/8" ✓

Pitch of stays at wide water space 15" x 10 $\frac{1}{16}$ " Are stays fitted with nuts or riveted over NUTS ✓Working Pressure 192 $\frac{1}{2}$ lb. Main stays: Material STEEL. Tensile strength 24/32 Tms. ✓Diameter $\left\{ \begin{array}{l} \text{At body of stay, } 3 \frac{1}{8} \text{ } \phi \\ \text{or } 3 \frac{1}{2} \text{ } \phi \\ \text{Over threads } 3 \frac{1}{2} \text{ } \phi \end{array} \right.$ No. of threads per inch 6 Area supported by each stay 429.75 ϕ ✓Working pressure by Rules 198 $\frac{1}{2}$ lb. Screw stays: Material STEEL Tensile strength 24/30 Tms. ✓Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1 \frac{3}{8} \text{ } \phi \\ \text{or } 1 \frac{1}{2} \text{ } \phi \\ \text{Over threads } 1 \frac{3}{8} \text{ } \phi \end{array} \right.$ No. of threads per inch 9 Area supported by each stay 115.7 ϕ ✓

Working pressure by Rules 182 1/2. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads. 2" }
 No. of threads per inch 9 Area supported by each stay 133.3 sq. Working pressure by Rules 185 1/2.
 Tubes: Material STEEL External diameter { Plain 3 3/4" Stay 3 1/2" } Thickness { 8 w.g. 1/2" 3 5/16" } No. of threads per inch 9
 Pitch of tubes 4 1/16" x 4 1/2" Working pressure by Rules 230, 192, 197 1/2. Manhole compensation: Size of opening in end
 shell plate 16" x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4" 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 Rivets }
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays
 Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell
 Type of Superheater Manufacturers of { Tubes Steel castings }
 Number of elements Material of tubes Internal diameter and thickness of tubes
 Material of headers Tensile strength Thickness Can the superheater be shut off and 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 per Rules
 Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes castings and after assembly in place Are drain cocks or valves fitted 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 THE NORTH EASTERN MARINE ENGINEERING CO. LD.
 The foregoing is a correct description.

John Neill Manufacturer.

Dates of Survey { During progress of work in shops - - - } Please see Mach. Rpt.
 while building { During erection on board vessel - - - }

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 Total No. of visits

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

The Boilers of this Vessel have been built under Special Survey, and the Materials & Workmanship are good. On completion they were satisfactorily fitted in the vessel and examined under a full head of steam. The Safety Valves were adjusted under steam and accumulation found to be satisfactory.

For Relation see Machinery Report.

Survey Fee ... £
 Travelling Expenses (if any) £
 When applied for, 192
 When received, 192

Changed in Machinery Report

J. D. Scott.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 26 AUG 1930

Assigned

See F. E. Rpt.



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