

REPORT ON BOILERS.

Slid. No 31780

7746 No. 15557

27 FEB 1936

14 DEC 1935

Received at London Office

12.12.35

12.12.35

Port of MIDDLESBROUGH.

Stockton

Date, First Survey 1st Nov

Last Survey 12.12.1935

on the Steel Screw motor ship "RUGELEY"

(Number of Visits 8) Tons Gross 4985 Net 3061

Built at Sunderland

By whom built W. Daxford & Sons Ltd.

Yard No. 618 When built 1936

Sunderland

By whom made W. Daxford & Sons Ltd.

Engine No. 618 When made 1936

Stockton

By whom made Stockton Chem. Engg. & Riley Boilers Ltd.

Boiler No. 647 When made 1935

nominal Horse Power

Owners The Red "R" Steamship Co Ltd

Port belonging to Newcastle

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland

(Letter for Record 5. ✓)

Heating Surface of Boilers 1626 sq ft

Is forced draught fitted no.

Coal or Oil fired oil

Kind and Description of Boilers 188

Working Pressure 120 lbs ✓

Tested by hydraulic pressure to 230 lbs. Date of test 12.12.35. No. of Certificate 6886.

Can each boiler be worked separately ✓

No. and Description of safety valves to each boiler 2 Direct Spring.

Pressure to which they are adjusted 120. Are they fitted with easing gear Yes. ✓

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Least distance between boilers or uptakes and bunkers or woodwork ✓ Is oil fuel carried in the double bottom under boilers no.

Least distance between shell of boiler and tank top plating 2'-10" Is the bottom of the boiler insulated Yes. ✓

Least internal dia. of boilers 11'-10 5/8" Length 11'-6" Shell plates: Material Steel ✓ Tensile strength 29/33 ✓

Thickness 11/16" Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams ✓ end D.R. ✓

Seams T.R.D.B.S. (4 rivets) Diameter of rivet holes in circ. seams 1 1/16" ✓ Pitch of rivets 3 3/8" ✓

Percentage of strength of circ. end seams plate 68.5 rivets 45.6 ✓ Percentage of strength of circ. intermediate seam plate rivets ✓

Percentage of strength of longitudinal joint plate 84.9 rivets 83.8 ✓ Working pressure of shell by Rules 123 lbs.

Thickness of butt straps outer 9/16" ✓ inner 11/16" ✓ No. and Description of Furnaces in each Boiler 2 c.f. ✓

Material Steel Tensile strength 26/30 ✓ Smallest outside diameter 3'-11 1/2" 3'-8 1/16"

Thickness of plain part top 13/32" ✓ bottom 13/32" ✓ Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 121 lbs.

Stays in steam space: Material Steel Tensile strength 26/30 ✓ Thickness 27/32 ✓ Pitch of stays 17" x 16" ✓

Are stays secured D.N.W. ✓ Working pressure by Rules 142 lbs. 27/32 ✓

Stays in steam space: Material Steel Tensile strength 26/30 ✓ Thickness 13/16" ✓

Pitch of stay tubes in nests 9 3/8" ✓ Pitch across wide water spaces 14" ✓ Working pressure front 157 lbs. back 249 lbs.

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

Entre 7" x 5 1/8" (double) ✓ Length as per Rule 30 1/2" ✓ Distance apart 9" ✓ No. and pitch of stays

Each 2-9 1/2" ✓ Working pressure by Rules 126 lbs. ✓ Combustion chamber plates: Material Steel

Tensile strength 26/30 ✓ Thickness: Sides 19/32 ✓ Back 7/16 ✓ Top 19/32 ✓ Bottom 7/8 ✓

Thickness of stays to ditto: Sides 9" x 9 7/8" (mean) ✓ Back 9 1/4" x 8 1/4" ✓ Top 9" x 9 1/2" ✓ Are stays fitted with nuts or riveted over nuts ✓

Working pressure by Rules 129 lbs. ✓ Front plate at bottom: Material Steel Tensile strength 26/30 ✓

Thickness 27/32 ✓ Lower back plate: Material Steel Tensile strength 26/30 ✓ Thickness 27/32 ✓

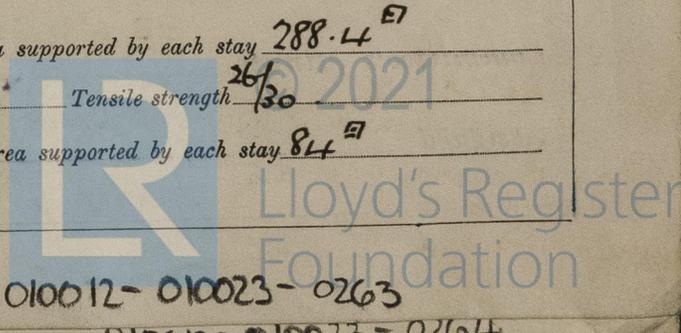
Thickness of stays at wide water space 13 1/2" x 9 1/4" ✓ Are stays fitted with nuts or riveted over nuts ✓

Working Pressure 201 lbs. ✓ Main stays: Material Steel Tensile strength 28/32 ✓

At body of stay, meter 2 1/4" ✓ No. of threads per inch 6. ✓ Area supported by each stay 288.4 in² ✓

Over threads 2 1/4" ✓ Working pressure by Rules 120 lbs. ✓ Screw stays: Material Steel Tensile strength 26/30 ✓

At turned off part, meter 1 3/8" ✓ No. of threads per inch 9 ✓ Area supported by each stay 84 in² ✓



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Working pressure by Rules 120 lbs Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 1 1/8 ^{or} 1 1/8 ^{Over threads} 1 1/8 5e.
 No. of threads per inch 9 Area supported by each stay 100 sq Working pressure by Rules 152 lbs
 Tubes: Material lapwelded iron External diameter ^{Plain} 2 3/4 to 2 3/16 Thickness ^{Stay} 5/16 No. of threads per inch 9
 Pitch of tubes 3 3/4 x 3 3/4 Working pressure by Rules p = 275 lbs s. - 276 lbs Manhole compensation: Size of opening 15"
 shell plate 20 x 16 Section of compensating ring 7 x 1 No. of rivets and diameter of rivet holes 44 - 76
 Outer row rivet pitch at ends 6 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} _____ ^{Rivets} _____
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of 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 number 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 from the boiler _____
 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 _____
 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 Y. 6 For and on behalf of Stockton Chemical Engineers & Pipe Fitters Ltd.
 The foregoing is a correct description, W. H. Hiley Manufg. Director, 144

Dates of Survey ^{During progress of work in shops - -} 1935- Nov 1-6, 14, 22, 27 Dec 4, 9, 12 Are the approved plans of boiler and superheater forwarded herewith Y. T. (If not state date of approval.)
^{while building} ^{During erection on board vessel - - -} Total No. of visits 8

Is this Boiler a duplicate of a previous case No. except tubes & minor alterations of so, state Vessel's name and Report No. "KIRRIEMOOR" Mar Rpt 15364

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 Plan. It will be fitted aboard in Sunderland.
This boiler has been securely fixed on board the vessel examined under steam, safety valves adjusted to working pressure & accumulation test carried out satisfactorily.
For recommendation please see incly. Rpt.
W. H. Hiley

Survey Fee £ 10 + 18 + 0. When applied for, 13. 12. 1935
 Travelling Expenses (if any) £ : : When received, 19 Feb 1936

P. J. M. Allen
 Engineer Surveyor to Lloyd's Register of Ship

Committee's Minute TUE. 3 MAR 1936
 Assigned See old J.C. 31780

