

REPORT ON BOILERS

No. 95349

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NEWCASTLE-ON-TYNE

Date of writing Report 17/8/37 19 When handed in at Local Office 18/8/37 19 Port of

To, in Survey held at Newcastle on Tyne Date, First Survey 23 Dec 1936 Last Survey 17/8/37 19

Book. on the Stead M/s BRITISH RESOLUTION (Number of Visits) Gross 8298 Net 4936

ster Built at Newcastle By whom built Swan Hunter & W. Richardson Ltd Yard No. 1514 When built 1937

gines made at Sunderland By whom made Wm Duxford & Sons Ltd Engine No. 199 When made 1937

ilers made at Newcastle By whom made Swan, Hunter & Wigham Richardson Ltd Boiler No. 1514 When made 1937

iminal Horse Power $\frac{2595}{15} = 173$ Owners British Tanker Co Port belonging to LONDON

WASTE HEAT ^{8/}OR OIL FIREDMULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel Steel Coy of Scotland (Letter for Record 5.)

otal Heating Surface of Boilers 2595 sq. ft. Is forced draught fitted Yes Coal or Oil fired Waste hbk. Gases

o. and Description of Boilers One Single ended Horizontal Multitubular. Working Pressure 150 LBS/sq. in.

ested by hydraulic pressure to 275 lb. Date of test 30/4/37 No. of Certificate 713 Can each boiler be worked separately Yes

rea of Firegrate in each Boiler oil fired No. and Description of safety valves to each boiler Two of 2 3/4" Cockburn's Improved High lift Spring loaded

rea of each set of valves per boiler {per Rule 9.85 sq. ins. as fitted 11.84 Pressure to which they are adjusted 150 lb. Are they fitted with easing gear Yes

n case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No main Boilers.

smallest distance between boilers or uptakes and bunkers or woodwork 16" Is oil fuel carried in the bunker double bottom under boilers Yes

smallest distance between shell of boiler and tank top plating 16" Is the bottom of the boiler insulated Yes

argest internal dia. of boilers 13' 4 1/4" Length 11' 6" Shell plates: Material Steel Tensile strength 30/34 tons

Thickness 7/8" Are the shell plates welded or flanged No Description of riveting: circ. seams {end DR Lap inter. none

ong. seams T. Riv. Dbl. butt straps Diameter of rivet holes in {circ. seams 1" long. seams 15/16" Pitch of rivets {3.24" 6.625"

Percentage of strength of circ. end seams {plate 69.18 rivets 42.41 Percentage of strength of circ. intermediate seam {plate none rivets

Percentage of strength of longitudinal joint {plate 85.84 rivets 85.55 combined 88-80 Working pressure of shell by Rules 151 lbs.

Thickness of butt straps {outer 21/32" inner 25/32" No. and Description of Furnaces in each Boiler Two at Wings. Deighton Corrugated. Plain tube at Centre back for access.

Material Steel Tensile strength 26/30 tons Smallest outside diameter 37 5/16"

Length of plain part {top 2' 4" c.c. bottom 2' 4" c.c. bottom Thickness of plates {crown 13/32" bottom 7/8" c.c. bottom Description of longitudinal joint Furnace Jow welded

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 155 lbs.

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 3/32" Pitch of stays 18 x 18

How are stays secured Dbl. nuts & washers. Working pressure by Rules 151.5 lbs.

Tube plates: Material {front Steel back Steel Tensile strength {26/30 tons Thickness {7/8" 5/8"

Mean pitch of stay tubes in nests 9.375" Pitch across wide water spaces 13 1/2 x 7 3/8 Working pressure {front 159 lbs. back 156

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

at centre 7 7/8" x 1 1/4" Length as per Rule 30 21/32 Distance apart 8 3/4 (max at Centre) No. and pitch of stays

in each 2 @ 9 3/8" Working pressure by Rules 151 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 5/8" Back 3/4" 23/32 Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 9 1/2 x 9 3/8 Back 9 x 9 cr. c.c. Top 9 3/8 x 8 3/4 Are stays fitted with nuts or riveted over both ends.

Working pressure by Rules 152 lbs. Front plate at bottom: Material Steel Tensile strength 26/30 tons

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 3/4"

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

Working Pressure 172 lbs. Main stays: Material Steel Tensile strength 28/32 tons

Diameter {At body of stays Two top stays 2 3/4" No. of threads per inch 6 Area supported by each stay (18 x 18) - 4.57 sq. in.

Over threads {others 2 5/8" Working pressure by Rules 155 lbs. Screw stays: Material Steel Tensile strength 26/30 tons

Diameter {At turned off point 1 1/2 x 1 5/8 No. of threads per inch 9 Area supported by each stay (9 3/8 x 8 3/4) - 1.45 sq. in.

Over threads C.C. tops.

Working pressure by Rules 155 lb Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part,} 1 5/8"
No. of threads per inch 9 Area supported by each stay (1 1/2 x 9) = 1.73 sq Working pressure by Rules 152 lb
Tubes: Material IRON External diameter ^{Plain} 2 1/2" Thickness ^{Stay} 3/8" + 5/16" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 229 lb Manhole compensation: Size of opening
shell plate 20" x 16" Section of compensating ring 8 1/4" x 7/8" x two No. of rivets and diameter of rivet holes 32 - 1 1/4"
Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged 2 1/2" 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 --- No. and diameter ^{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 pitch ---
of rivets in outer row in dome connection to shell ---
Type of Superheater None Manufacturers of ^{Tubes} ---
Number of elements --- Material of tubes --- 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 per Rules ---
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
The foregoing is a correct description ---

Dates of Survey ^{During progress of} --- ^{work in shops - - -} --- Are the approved plans of boiler and superheater forwarded herewith 26/8/33
^{while} --- ^{During erection on} --- ^{board vessel - - -} --- (If not state date of approval.) ---
building --- See Machinery Report Total No. of visits ---

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. British Fame No 44 94124
British Indurance " 94275

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The Boiler has been built under Special Survey in accordance with the Society's Rules, and approved plans, and the materials & workmanship are good
The Boiler is fitted on top of the oil fuel Bunker in the Boiler Space forward of the Engine Room, having access from the top platform of the Engine Room
The Boiler is fitted for burning oil fuel F.P. above 150° F., under forced draft and also for using the Waste Exhaust gases from the main Engine.
The Safety Valves were adjusted under steam to 150 lbs. and the accumulation test was satisfactory.

Survey Fee ... £ See Machinery Rpt When applied for, 19
Travelling Expenses (if any) £ --- When received, 19

A. Watt & W. Nicholson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 27 AUG 1937

Assigned See F.E. mchly rpt.