

REPORT ON BOILERS.

No. 56140

25 SEP 1935

Date of writing Report 19 When handed in at Local Office 21.9.35 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 13.11.34 Last Survey 11-9-1935
 on the new steel 3/5" INVENTOR (Number of Visits 76) Tons Gross 6210 Net 3840
 Built at Glasgow By whom built W & W. Henderson & Co. Ltd. Yard No. 953 When built 1935
 Engines made at Glasgow By whom made W & W. Henderson & Co. Ltd. Engine No. 953 When made 1935
 Boilers made at Glasgow By whom made W & W. Henderson & Co. Ltd. Boiler No. 953 When made 1935
 Owners T & J. Harrison Port belonging to Liverpool.
 388

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel B. Whittle Ltd. (Letter for Record (r) ☒)
 Total Heating Surface of Boilers 1242 sq ft Is forced draught fitted no Coal or Oil fired coal
 No. and Description of Boilers one single ended Working Pressure 120
 Tested by hydraulic pressure to 230 Date of test 13-6-35 No. of Certificate 19556 Can each boiler be worked separately -
 Area of Firegrate in each Boiler 35 sq ft No. and Description of safety valves to each boiler two direct spring
 Area of each set of valves per boiler {per Rule 11.42 sq ft as fitted 11.86 sq ft Pressure to which they are adjusted 120 Are they fitted with easing gear yes
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Is oil fuel carried in the double bottom under boilers no
 Smallest distance between shell of boiler and tank top plating no Is the bottom of the boiler insulated yes
 Largest internal dia. of boilers 12'-6" Length 10'-6" Shell plates: Material steel Tensile strength 28-32 tons
 Thickness 23" Are the shell plates welded or flanged no Description of riveting: circ. seams {end DR inter. -
 Rivets DBS.T.R. Diameter of rivet holes in {circ. seams 13/16" long. seams 7/8" Pitch of rivets {2.367" 5.554
 Percentage of strength of circ. end seams {plate 65.7 rivets 50.2 Percentage of strength of circ. intermediate seam {plate 84.24 rivets 92.5
 Percentage of strength of longitudinal joint {plate 84.24 rivets 92.5 combined 91.6 Working pressure of shell by Rules 120
 Thickness of butt straps {outer 9" inner 11" No. and Description of Furnaces in each Boiler two plain
 Material steel Tensile strength 26-30 tons Smallest outside diameter 43 1/4"
 Thickness of plates {crown 7/8" bottom 7/8" Description of longitudinal joint welded
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules
 Plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/16" Pitch of stays 17 1/4" x 23 3/4"
 Are stays secured DN Working pressure by Rules 121
 Front plates: Material {front steel back " Tensile strength {26-30 tons Thickness {13/16" 23/32"
 Pitch of stay tubes in nests 12.1875" Pitch across wide water spaces 14 1/2" Working pressure {front 129 back 124
 Boilers to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder
 Centre 2 @ 7 1/4" x 9 1/8" Length as per Rule 30.7" Distance apart 9.875" No. and pitch of stays
 Thickness 2 @ 9 3/4" Working pressure by Rules 122 Combustion chamber plates: Material steel
 Tensile strength 26-30 tons Thickness: Sides 1 1/32" Back 7/16" Top 1 1/32" Bottom 1 5/16"
 Pitch of stays to ditto: Sides 9 3/4" x 9 3/4" Back 9" x 9" Top 9 7/8" x 9 3/4" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules 126 Front plate at bottom: Material steel Tensile strength 26-30 tons
 Thickness 13/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 5/8"
 Pitch of stays at wide water space 13" x 9" Are stays fitted with nuts or riveted over nuts
 Shipping Pressure 125 Main stays: Material steel Tensile strength 28-32 tons
 At body of stay, 2 1/2" No. of threads per inch 6 Area supported by each stay 419 sq in
 Over threads
 Working pressure by Rules 131 Screw stays: Material steel Tensile strength 21 tons
 At turned off part, 1 3/8" No. of threads per inch 9 Area supported by each stay 81 sq in
 Over threads

Working pressure by Rules 125 lb Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads. 1 1/2"

No. of threads per inch 9 Area supported by each stay 990" Working pressure by Rules 126

Tubes: Material Iron External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 8 W.G. 1/4 & 5/16" No. of threads per inch 9

Pitch of tubes 4 1/8" x 4 1/8" Working pressure by Rules 125 Manhole compensation: Size of opening in shell plate 19 x 15" Section of compensating ring 5 1/2 x 2 1/2" No. of rivets and diameter of rivet holes 38 @ 1 5/16"

Outer row rivet pitch at ends 5 15/16" Depth of flange if manhole flanged 3" Steam Dome: Material none

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes 5/8" Pitch of rivets 8" Percentage of strength of joint { Plate Rivets

Internal diameter 22" 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 none 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

The foregoing is a correct description,
 For DAVID & WM HENDERSON & CO., LTD. Manufacturer
A.S. Macdonald
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes
 Total No. of visits

SEE ACCOMPANYING MACHINERY REPORT.

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Designer" Ship No. 48380

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

The materials and workmanship are good.

The boiler has been constructed under special survey, satisfactorily fitted in the vessel and its safety valves adjusted under steam.

21/9/35.

Survey Fee £ 8 : 6 : - When applied for, 17.9.35

Travelling Expenses (if any) £ When received, 8.11.35

S. Cairns
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 24 SEP 1935

Assigned SEE ACCOMPANYING MACHINERY REPORT.