

REPORT ON BOILERS.

No. 49905

Received at London Office

-4 DEC 1929

Date of writing Report 19 When handed in at Local Office 2. 12. 19 Port of Glasgow
 Date, First Survey 28. 5. 29 Last Survey 2. 12. 1929
 (Number of Visits 33) Gross Tons Net
 Master Built at Burntisland By whom built Burntisland SBC Co Yard No. 158 When built 1929
 Engines made at Glasgow By whom made David Rowan & Co Ltd Engine No. 918 When made 1929
 Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 918 When made 1929
 Nominal Horse Power Owners The Zinal Steamship Co Ltd Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Witkowitz Bergbau und Eisenhütten Gesellschaft in Witkowitz (Letter for Record (S))
 Total Heating Surface of Boilers 1005 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 12-11-29 No. of Certificate 18516 Can each boiler be worked separately -
 Area of Firegrate in each Boiler 33 sq ft No. and Description of safety valves to each boiler two direct opening
 Area of each set of valves per boiler { per Rule 9.33 sq ft as fitted 9.8 sq ft Pressure to which they are adjusted 122 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
 Smallest distance between boilers or uptakes and bunkers or woodwork 10" Is oil fuel carried in the double bottom under boilers ✓
 Smallest distance between shell of boiler and tank top plating Boiler fitted in 'tween deck Is the bottom of the boiler insulated No
 Largest internal dia. of boilers 10'-8" Length 10'-4" Shell plates: Material steel Tensile strength 29.33 tons
 Thickness 2 1/2" Are the shell plates welded or flanged no Description of riveting: circ. seams { end WR lap inter. -
 Long. seams T.R. lap Diameter of rivet holes in { circ. seams 15" long. seams 16" Pitch of rivets { 2.816 4 1/4"
 Percentage of strength of circ. end seams { plate 66.4 rivets 59.4 Percentage of strength of circ. intermediate seam { plate 77.9 rivets 78.6
 Percentage of strength of longitudinal joint { plate 78.6 rivets 78.1 combined 78.1 Working pressure of shell by Rules 120
 Thickness of butt straps { outer ✓ inner ✓ No. and Description of Furnaces in each Boiler two plain
 Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-1 9/16"
 Length of plain part { top 6'-4 1/2" bottom 7'-2 1/8" Thickness of plates { crown 7/8" bottom 7/8" Description of longitudinal joint welded
 Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 127
 Plates in steam space: Material steel Tensile strength 26-30 tons Thickness 15/16" Pitch of stays 17" x 18"
 How are stays secured WN Working pressure by Rules 131
 Side plates: Material { front steel back " Tensile strength { 26-30 tons Thickness { 15/16" 2 1/2"
 Can pitch of stay tubes in nests 11 1/8" Pitch across wide water spaces 14 1/2" Working pressure { front 256 back 123
 Orders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder
 Centre 2 @ 7" x 9/16" Length as per Rule 29-2 5/8" Distance apart 9" No. and pitch of stays
 Each 2 @ 9 1/2" Working pressure by Rules 121 Combustion chamber plates: Material steel
 Tensile strength 26-30 tons Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 15/16"
 Pitch of stays to ditto: Sides 9 1/2" x 9" Back 9 1/2" x 9" Top 9 1/2" x 9" 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 15/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 15/16"
 Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts
 Working Pressure 274 Main stays: Material steel Tensile strength 28-32 tons
 Diameter { At body of stay, or over threads 2 1/4" No. of threads per inch 6 Area supported by each stay 306 sq in
 Working pressure by Rules 128 Screw stays: Material steel Tensile strength 26-30 tons
 Diameter { At turned off part, or over threads 1 3/8" No. of threads per inch 9 Area supported by each stay 34.5 sq in

Working pressure by Rules 120 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 1 1/2 x 1 7/8"
No. of threads per inch 9 Area supported by each stay 103.5 sq in & 109.7 sq in Working pressure by Rules 121 & 139
Tubes: Material Iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 9 w.s. 1/4, 5/16, 3/8" No. of threads per inch 9
Pitch of tubes 4 1/2 x 4 7/8 Working pressure by Rules 230 Manhole compensation: Size of opening in shell plate 19 x 15 1/2 Section of compensating ring 7 x 21/32 No. of rivets and diameter of rivet holes 36 @ 1 5/16"
Outer row rivet pitch at ends 4 1/2" Depth of flange if manhole flanged 3" Steam Dome: Material none
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes 221 Pitch of rivets Percentage of strength of joint { Plate Rivets
Internal diameter 819 Working pressure by Rules Thickness of crown No. and diameter of stays
How connected to shell Inner radius of crown Working pressure by Rules
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

The foregoing is a correct description,
For David Rowan & Co. Ltd. Manufacturer.
Arch. H. Grierson

Dates of Survey { During progress of work in shops - - - See Accompanying Machinery Report
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 33

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

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 in accordance with the Rules:

2/12/29 This boiler has been efficiently fitted on board, its safety valves have been adjusted under steam as noted.

John Houston. Leith. 13/1/30

Survey Fee £ 6 : 14 : 10 When applied for 3-DEC-1929
Travelling Expenses (if any) £ : : : When received, 10th Jan 1930

Committee's Minute GLASGOW 3-DEC-1929

Assigned See Accompanying Machinery Report

