

REPORT ON BOILERS.

54690
No. 54408

-4 JUL 1934

Received at London Office 18 APR 1934

of writing Report 19 When handed in at Local Office 16. 4. 1934 Port of Glasgow
No. in Survey held at Glasgow Date, First Survey 31. 1. 34 Last Survey 16-4-1934
Book. on the new steel s/s "Broom" (Number of Visits 13) Tons { Gross 346
Net 121
ster Built at Bowling By whom built Scott & Sons Yard No. 325 When built 1934
gines made at Glydebank By whom made Crichton Blair & Co. Ltd Engine No. 186 When made 1934
ilers made at Glasgow By whom made Davis Rowan & Co. Ltd Boiler No. 392 When made 1934
pinal Horse Power 79 Owners Kilkeel S. S. Co. Ltd Port belonging to Newry

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Bohills Ltd (Letter for Record (S))
Total Heating Surface of Boilers 1489 sq ft Is forced draught fitted no Coal or Oil fired coal
No. and Description of Boilers one single ended Working Pressure 205
Tested by hydraulic pressure to 358 Date of test 3-4-34 No. of Certificate 19354 Can each boiler be worked separately ✓
Area of Firegrate in each Boiler 50.8 sq ft No. and Description of safety valves to each boiler
Area of each set of valves per boiler { per Rule Pressure to which they are adjusted Are they fitted with easing gear
as fitted
In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler
Smallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers
Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated
Largest internal dia. of boilers 13'-0" Length 10'-0" Shell plates: Material Steel Tensile strength 29-33 tons
Thickness 1 3/16" Are the shell plates welded or flanged no Description of riveting: circ. seams { end 19R
inter. -
Long. seams 19SS. TR Diameter of rivet holes in { circ. seams F 1 3/16" B 1 1/4"
long. seams 1 1/4" Pitch of rivets { F 3.207" B 3.5"
8 1/4"
Percentage of strength of circ. end seams { plate F 62.9 B 64.2
rivets F 46.2 B 46.8
Percentage of strength of circ. intermediate seam { plate
rivets
Percentage of strength of longitudinal joint { plate 84.8
rivets 92.8
combined 88.5 Working pressure of shell by Rules 206
Thickness of butt straps { outer 29"
inner 1 1/2" No. and Description of Furnaces in each Boiler Three Deighton
Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-2 3/8"
Length of plain part { top Thickness of plates { crown 35"
bottom 64" Description of longitudinal joint welded
Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 208
End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/8" Pitch of stays 17 1/4" x 19 1/2"
How are stays secured ON Working pressure by Rules 206
Tube plates: Material { front Steel Tensile strength { 26-30 tons Thickness { 29"
back " " " 32 25 32
Lean pitch of stay tubes in nests 10-18" Pitch across wide water spaces 14" Working pressure { front 207
back 211
Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder
at centre 2 @ 6 3/4" x 1 1/8" Length as per Rule 28 9/16" Distance apart 8" No. and pitch of stays
in each 2 @ 9 1/4" Working pressure by Rules 210 Combustion chamber plates: Material Steel
Tensile strength 26-30 tons Thickness: Sides 43/64" Back 21/32" Top 43/64" Bottom 1"
Pitch of stays to ditto: Sides 9 1/4" x 8" Back 8 1/2" x 8 1/2" Top 8" x 9 1/4" Are stays fitted with nuts or riveted over nuts
Working pressure by Rules 208 Front plate at bottom: Material Steel Tensile strength 26-30 tons
Thickness 29/32 Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 13/16"
Pitch of stays at wide water space 13 1/4" Are stays fitted with nuts or riveted over nuts
Working Pressure 217 Main stays: Material Steel Tensile strength 28-32 tons
Diameter { At body of stay, 2 3/4" & 2 1/2"
Over threads No. of threads per inch 6 Area supported by each stay 278" & 253"
Working pressure by Rules 235 & 211 Screw stays: Material Steel Tensile strength 26-30 tons
Diameter { At turned off part, 1 7/8" & 1 3/4"
Over threads No. of threads per inch 9 Area supported by each stay 74 & 88.2"

Working pressure by Rules 206 & 205 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 1 3/4" ✓
No. of threads per inch 9 Area supported by each stay 88.2 sq" Working pressure by Rules 205
Tubes: Material steel External diameter { Plain 3 1/4" Thickness { 8 w.g. No. of threads per inch 9
Pitch of tubes 4 1/6" x 4 3/8" Working pressure by Rules 230 Manhole compensation: Size of opening
shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 1/2" x 1 3/16" No. of rivets and diameter of rivet holes 34 @ 1 1/4"
Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged 3" Steam Dome: Material none
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
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

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

Dates of Survey { During progress of work in shops - - } 1934 Jan - 31 Feb - 1. 5. 7. 9. 14 Are the approved plans of boiler and superheater forwarded herewith
while building { During erection on board vessel - - } 19. 26 Mar 13. 14. 23 Apr 3. 16 (If not state date of approval.)
Total No. of visits 13

Is this Boiler a duplicate of a previous case no 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 and will be fitted on board the vessel.
H. H. Bowdler.
16/4/34

Survey Fee ... £ 9 : 18 :

When applied for,

17 APR 1934

Travelling Expenses (if any) £ :

When received,

19. 4. 34

L. C. Davis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 17 APR 1934

Assigned TRANSMIT TO LONDON

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Foundation
No. 54690