

See Serial No. 71

Rpt. 5a.

REPORT ON BOILERS.

No. 61274

Received at London Office

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Date of writing Report 19 1939 When handed in at Local Office 19 1939 Port of Glasgow

No. in Reg. Book. 5422 Survey held at Glasgow Date, First Survey 26th Jan 1939 Last Survey 13-6-1939

on the new S/S "CEFN-Y-BRYN" (Number of Visits 35)

Master Burntisland Built at Burntisland By whom built Burntisland SBCo Ld. Yard No. 227 When built 1939

Engines made at Glasgow By whom made David Rowan & Co Ld Engine No. 1031 When made 1939

Boilers made at Glasgow By whom made David Rowan & Co Ld Boiler No. 1031 When made 1939

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland Ltd (Letter for Record S)

Total Heating Surface of Boilers 1180 Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers one single ended Working Pressure 220

Tested by hydraulic pressure to 380 Date of test 19-5-39 No. of Certificate 20387 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 32.9 sq ft No. and Description of safety valves to each boiler 2 spring loaded (ordinary)

Area of each set of valves per boiler per Rule 6.2760" as fitted 6.280" Pressure to which they are adjusted 220 lb/sq in Are they fitted with easing gear yes

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 BETWEEN MAIN BOILERS Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 3'-0" Is the bottom of the boiler insulated yes.

Largest internal dia. of boilers 11'-6" Length 10'-6" Shell plates: Material S Tensile strength 9-33 tons

Thickness 1 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams end DR

long. seams DRS TR Diameter of rivet holes in circ. seams } 13/16" long. seams } Pitch of rivets B. 1875" 8"

Percentage of strength of circ. end seams plate 62.7 rivets 49.7 Percentage of strength of circ. intermediate seam plate 85.15 rivets 92.7 combined 88.9 Working pressure of shell by Rules 222

Thickness of butt straps outer 27/32" inner 21/32" No. and Description of Furnaces in each Boiler Two Deighton

Material S Tensile strength 26-30 tons Smallest outside diameter 3'-4 3/4"

Length of plain part top } Thickness of plates { crown } 9/8" Description of longitudinal joint welded bottom }

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 223

End plates in steam space: Material S Tensile strength 26-30 tons Thickness 1 1/4" Pitch of stays 2 1/2" x 14"

How are stays secured DN Working pressure by Rules 221

Tube plates: Material front Steel back " Tensile strength 26-30 tons Thickness 15/16" 25/32"

Mean pitch of stay tubes in nests 9.7" Pitch across wide water spaces 14" Working pressure front 229 back 232

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

at centre 2 @ 7 1/4" x 7/8" Length as per Rule 28 1/16" Distance apart 9 1/4" No. and pitch of stays

in each 2 @ 8 7/8" Working pressure by Rules 220 Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 3/4" Back 2 1/32" Top 3/4" Bottom 3/4"

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

Working pressure by Rules 220 Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 15/16" Lower back plate: Material S Tensile strength 26-30 tons Thickness 5 3/64"

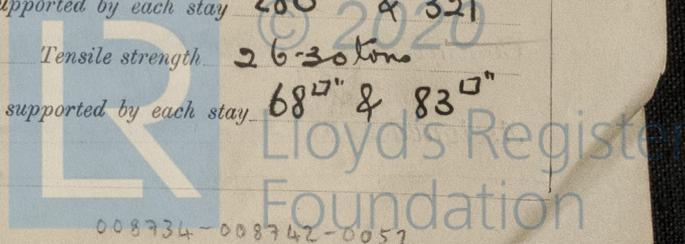
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 227 Main stays: Material Steel Tensile strength 28-32 tons

Diameter At body of stay, 2 3/4" & 3" or Over threads No. of threads per inch 6 Area supported by each stay 280" & 321"

Working pressure by Rules 233 & 244 Screw stays: Material Steel Tensile strength 26-30 tons

Diameter At turned off part, " or Over threads 1 7/8" & 1 3/4" No. of threads per inch 9 Area supported by each stay 68" & 83"



Working pressure by Rules 224 & 220 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part.} 1 3/4 or 1 7/8 Over threads 1 3/4 1 7/8
 No. of threads per inch 9 Area supported by each stay 83" & 91" Working pressure by Rules 220 & 234
 Tubes: Material Iron External diameter ^{Plain} 3 Thickness ^{Stay} 3 8 W.S. No. of threads per inch 9
 Pitch of tubes 4 3/16" x 4 1/8" Working pressure by Rules 250 Manhole compensation: Size of opening in shell plate 19 1/2 x 15 1/2 Section of compensating ring 8 3/4 x 1 1/4 No. of rivets and diameter of rivet holes 32 @ 1 1/4
 Outer row rivet pitch at ends 8 1/4 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 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 forgings} _____ ^{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 _____ forgings and 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. N. Grierson

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

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 has been sent to Burntisland to be fitted in the vessel.

Job
26/6/39
This boiler has been efficiently fitted on board and the safety valves adjusted to 220 lbs/sq. in.
J.F. Campbell.

Survey Fee £ See Machinery R.M. } When applied for, 19
 Travelling Expenses (if any) £ _____ } When received, 19
Sh. Davis
 Engineer Surveyor to Lloyd's Register of Shipping.