

REPORT ON BOILERS.

No. 19930.

20 MAR 1935

Received at London Office

Date of writing Report 5.3.35 When handed in at Local Office 16th MARCH 1935 Port of GreenockNo. in Reg. Book. Survey held at Greenock Date, First Survey 23rd April 1929 Last Survey 14th March 1934

on the S/S "DARCOLM" (Number of Visits) Gross 294.53 Tons Net 263.34

Master Built at Glasgow By whom built W. Hamilton & Co. Yard No. 409 When built 1935

Engines made at Greenock By whom made John & T. Macaulay & Co. Engine No. 660 When made 1935

Boilers made at ditto By whom made ditto Boiler No. 660 When made 1925

Nominal Horse Power Owners Harco Shipping Co. Ltd. Port belonging to Glasgow.

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY OR DONKEY~~

Manufacturers of Steel Steel Co. of Scotland, Glasgow & Glasgow & Glasgow (Letter for Record S)

Total Heating Surface of Boilers 7335 sq. ft. Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers 3 Single Ended Working Pressure 200

Tested by hydraulic pressure to 350 Date of test 11.12.34 No. of Certificate 2035 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 61.84 sq. ft. No. and Description of safety valves to each boiler 2 High Lift (Backburn)

Area of each set of valves per boiler {per Rule 9.44 sq. ft. as fitted 9.8 sq. ft. Pressure to which they are adjusted 205 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 2.6" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2.0" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-4 1/2" Length 11'-6" Shell plates: Material S Tensile strength 29.33

Thickness 1 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end DR inter. —

long. seams TR + DBS Diameter of rivet holes in {circ. seams 17/16" long. seams 13/8" Pitch of rivets {4.057 9 19/32"

Percentage of strength of circ. end seams {plate 64.6 rivets 44.2 Percentage of strength of circ. intermediate seam {plate 85.4 rivets 85.4

Percentage of strength of longitudinal joint {plate 85.4 rivets 85.4 combined 84.4 Working pressure of shell by Rules 200

Thickness of butt straps {outer 1 1/32" inner 1 5/32" No. and Description of Furnaces in each Boiler 3 Draughts

Material S Tensile strength 26-30 Smallest outside diameter 3.10 5/16"

Length of plain part {top Thickness of plates {crown 2 1/32" bottom 2 1/32" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 204

End plates in steam space: Material S Tensile strength 26.30 Thickness 1 1/32" Pitch of stays 23+21"

How are stays secured DN + W. Working pressure by Rules 206

Tube plates: Material {front S back S Tensile strength {26-30 Thickness {15/16" 13/16"

Mean pitch of stay tubes in nests 10.265 Pitch across wide water spaces 14 1/4" Working pressure {front 208 back 226

Girders to combustion chamber tops: Material S Tensile strength 29.33 Depth and thickness of girder

at centre 10 3/4 + 13/16 (2) Length as per Rule 37.031 Distance apart 9 1/4" No. and pitch of stays

in each 3 at 8 7/8" Working pressure by Rules 239 Combustion chamber plates: Material S

Tensile strength 26-30 Thickness: Sides 11/16" Back 2 1/32" Top 1 1/16" Bottom 7/8"

Pitch of stays to ditto: Sides 8 7/8 + 8 3/4 Back 8 7/8 + 8 3/8 Top 8 7/8 + 9 1/4 Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 211 Front plate at bottom: Material S Tensile strength 26-30

Thickness 15/16" Lower back plate: Material S Tensile strength 26-30 Thickness 2 1/32"

Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over Nuts

Working Pressure 211 Main stays: Material S Tensile strength 26-32

Diameter {At body of stay, 3 1/2" No. of threads per inch 6 Area supported by each stay 483 sq. in.

Working pressure by Rules 210 Screw stays: Material S Tensile strength 26-2320

Diameter {At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 78 sq. in.



Working pressure by Rules 204 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 17/8" Over threads }
No. of threads per inch 9 Area supported by each stay 84" Working pressure by Rules 217
Tubes: Material Iron External diameter { Plain } 3 1/4" Thickness { 8 WG. 7/16" 3/8" 5/16" } No. of threads per inch 9
Pitch of tubes 4 7/16" x 4 7/16" Working pressure by Rules 231 Manhole compensation: Size of opening in shell plate 16 1/2" x 20 1/2" Section of compensating ring 33" x 37" x 1 1/2" No. of rivets and diameter of rivet holes 36 - 1 1/2"
Outer row rivet pitch at ends 10 1/4" Depth of flange if manhole flanged 3 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 Rivets }
Internal diameter 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 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 JOHN G. KINCALD & CO. LIMITED.
Director or Manufacturer.

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - }
SEE MACHINERY REPORT
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes
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.) These Boilers have been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality. They have now been securely fitted on board.
This Report accompanies trial of the Machinery.

Survey Fee :
Travelling Expenses (if any) £ :
When applied for, 19
When received, 19

W. Gordon-Mitchell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 19 MAR 1935
Assigned See accompanying Mach. Report.