

REPORT ON BOILERS.

No. 66000

(See Leit Report No. 20789)

Date of writing Report

19

When handed in at Local Office

31: 8.

10

Port of GLASGOW

Received at London Office

2 SEP 1942

No. in
Reg. Book.

Survey held at GLASGOW

Date, First Survey

13: 2: 42

Last Survey 24th. Aug. 1942

on the

S.S. "CARLTON."

(Number of Visits 39)

Tons { Gross
Net

Master Built at BURNTISLAND By whom built BURNTISLAND S.B. Co. Yard No. 263 When built 1942

Engines made at GLASGOW By whom made DAVID ROWAN & CO. LD. Engine No. 1108 When made 1942

Boilers made at -DO- By whom made -DO- Boiler No. 1108 When made 1942

Nominal Horse Power 512 Owners Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel STEEL COMPANY OF SCOTLAND LD.

(Letter for Record S)

Total Heating Surface of Boilers 7248 sq ft Is forced draught fitted YES Coal or Oil fired COAL

No. and Description of Boilers 3 SINGLE-ENDED Working Pressure 220 lbs.

Tested by hydraulic pressure to 380 lbs. Date of test 13-6-42 No. of Certificate 21079 Can each boiler be worked separately YES

Area of Firegrate in each Boiler 55 sq ft No. and Description of safety valves to each boiler 1-3" DOUBLE

Area of each set of valves per boiler { per Rule 12.95 sq ft as fitted 14.14 sq ft Pressure to which they are adjusted 220 lbs/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 front of boilers to bulkhead = 9'-0" Is oil fuel carried in the double bottom under boilers

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'-3" Length 11'-6" Shell plates: Material S Tensile strength 29/33 tons

Thickness 1 7/16" Are the shell plates welded or flanged NO Description of riveting: circ. seams { end D.R. inter. -

long. seams D.B.S. T.R. Diameter of rivet holes in { circ. seams B 1 1/2" F 1 3/8" Pitch of rivets { B 4.13" F 3.435" long. seams 1 1/2"

Percentage of strength of circ. end seams { plate 863.68 F 60 rivets 47.2 47.8 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85.36 rivets 89 combined 88.5 Working pressure of shell by Rules

Thickness of butt straps { outer 1 3/32 inner 1 7/32 No. and Description of Furnaces in each Boiler 3 Dighton

Material S Tensile strength 26/30 tons Smallest outside diameter 3'-9 3/8"

Length of plain part { top bottom Thickness of plates { crown 1 1/16 bottom Description of longitudinal joint welded

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

End plates in steam space: Material S Tensile strength 26/30 tons Thickness 1 3/8" Pitch of stays 19" x 22"

How are stays secured D.N. Working pressure by Rules

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

Mean pitch of stay tubes in nests 9'-6" Pitch across wide water spaces 14" Working pressure { front back

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

at centre 2 @ 8 3/4" x 7/8" Length as per Rule 2'-9 1/2" Distance apart 8" No. and pitch of stays

in each 3 @ 8 1/4" Working pressure by Rules Combustion chamber plates: Material S

Tensile strength 26/30 tons Thickness: Sides 2 1/32 Back 2 3/32 Top 2 1/32 Bottom 13/16"

Pitch of stays to ditto: Sides 8" x 8 1/4" Back 8" x 10" Top 8" x 8 1/4" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules Front plate at bottom: Material S Tensile strength 26/30 tons

Thickness 15/16" Lower back plate: Material S Tensile strength 26/30 tons Thickness 13/16"

Pitch of stays at wide water space 13 7/16" Are stays fitted with nuts or riveted over Nuts

Working Pressure Main stays: Material S Tensile strength 28/32 tons

Diameter { At body of stay, 3" + 3 1/4" No. of threads per inch 6 Area supported by each stay

Working pressure by Rules Screw stays: Material S Tensile strength 26/30 tons

Diameter { At turned off part, 1 5/8" + 1 3/4" No. of threads per inch 9 Area supported by each stay

Working pressure by Rules Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, *1 7/8"*
No. of threads per inch *9* Area supported by each stay Working pressure by Rules
Tubes: Material *S* External diameter { Plain *3"* Thickness { *7 W 9*
Pitch of tubes *4 1/8" x 4 3/16"* Working pressure by Rules No. of threads per inch *9*
shell plate Section of compensating ring No. of rivets and diameter of rivet holes
Outer row rivet pitch at ends Depth of flange if manhole flanged *4"* 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
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

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 T62 LP.
Archd. H. Grierson Manufacturer.

Dates of Survey { During progress of work in shops - -
while building { During erection on board vessel - -

Are the approved plans of boiler and superheater forwarded herewith *10/11/41*
(If not state date of approval.)
SEE ACCOMPANYING MACHINERY REPORT,
Total No. of visits

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *"INGLETON" GLS. R^{pt} 65418*

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

These boilers have been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. They have been sent to Burntisland for installation in the vessel.

These boilers have been efficiently fitted on board and the safety valves adjusted to 220 lbs/sq. in.

J. F. Campbell.

Survey Fee ... £ *See mach. report* When applied for, 19
Travelling Expenses (if any) £ *See mach. report* When received, 19

Committee's Minute GLASGOW 1- SEP 1942

Assigned

SEE ACCOMPANYING MACHINERY REPORT

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 16 OCT 1942

See Lth. 20789

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