

REPORT ON BOILERS.

Received at London Office 3 MAR 1943

Date of writing Report 22ND FEB 1943. When handed in at Local Office 26TH FEB 1943. Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 8TH JUNE 1942. Last Survey 19TH July 1943
Reg. Book. Sup' 88736 on the SINGLE SC "TRIONA" (Number of Visits) Gross 7282.89 Tons Net 4025.21

Built at PORT GLASGOW By whom built LITHGOWS LTD. Yard No. 974 When built 1943
Engines made at GREENOCK By whom made JOHN G. KINCAID & CO LTD Engine No. 741 When made 1943
Boilers made at GREENOCK By whom made JOHN G. KINCAID & CO LTD Boiler No. 741 When made 1943
Nominal Horse Power 509. Owner BRITISH PHOSPHATE COMMISSIONERS Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles & Co (Letter for Record S)

Total Heating Surface of Boilers 7248^{sq} Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers Three SE Multitubular Working Pressure 220 lbs/sq

Tested by hydraulic pressure to 380 lbs/sq Date of test 29-8-42 7-9-42 15-9-42 No. of Certificate 2303 2305 2306 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 54.84 No. and Description of safety valves to each boiler 2 1/4" Double opening I.H.L.

Area of each set of valves per boiler {per Rule 6.427 as fitted 7.96 Pressure to which they are adjusted 220 lbs. 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 1'-3" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2'-1 1/4" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-0 1/16" Length 11-6 Shell plates: Material S Tensile strength 29/33 tons

Thickness 1 15/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end DR inter. 4.07" Pitch of rivets 10.375"

long. seams TR. DBS. Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 1/2"

Percentage of strength of circ. end seams {plate 63.1 rivets 46.7 Percentage of strength of circ. intermediate seam {plate 85.5 rivets 86

Percentage of strength of longitudinal joint {plate 86 rivets 87 combined 87

Thickness of butt straps {outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 Dighton corrugated

Material S Tensile strength 26/30 tons Smallest outside diameter 3'-9 1/4"

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

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material S Tensile strength 26/30 tons Thickness 1 13/32" Pitch of stays 21 x 20"

How are stays secured D.N.

Tube plates: Material {front S back Tensile strength 26/30 tons Thickness {15 1/16" 25/32"

Mean pitch of stay tubes in nests 9.8125" Pitch across wide water spaces 14"

Girders to combustion chamber tops: Material S Tensile strength 28/32 tons Depth and thickness of girder at centre 10 1/2" x 1 3/8" Length as per Rule 2.9 17/32" Distance apart 9 1/4" No. and pitch of stays in each 3 @ 8"

Combustion chamber plates: Material S Tensile strength 26/30 tons Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 3/16"

Pitch of stays to ditto: Sides 9 1/4" x 8" Back 9 1/4" x 8" Top 9 1/4" x 8" Are stays fitted with nuts or riveted over Nuts except thro shell

Front plate at bottom: Material S Tensile strength 26/30 tons Thickness 15 1/16" Lower back plate: Material S Tensile strength 26/30 tons Thickness 27/32"

Pitch of stays at wide water space 14 x 8" Are stays fitted with nuts or riveted over Nuts

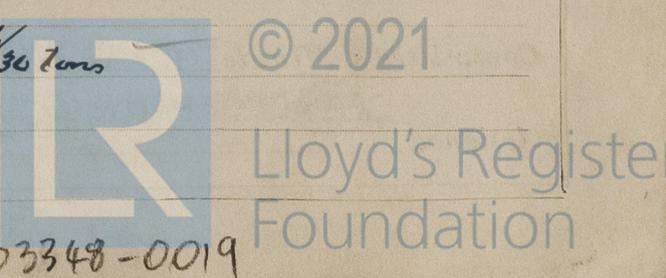
Main stays: Material S Tensile strength 28/32 tons

Diameter {At body of stay 3 1/4" or Over threads No. of threads per inch 6

Screw stays: Material S Tensile strength 26/30 tons

Diameter {At turned off part 1 3/4" or Over threads No. of threads per inch 9

00334-003348-0019



Printed in England

Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part.} 17/8"
 No. of threads per inch 9
 Tubes: Material ^{HOT ROLLED} WELDLESS STEEL External diameter ^{Plain} 3" ^{Stay} 3" Thickness ⁸ 5/16 3/8 No. of threads per inch 9
 Pitch of tubes 4 1/4 * 4 1/8" Manhole compensation: Size of opening in 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 1/4" in end plate 16 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 _____ Thickness of crown _____ No. and diameter of stays _____ Inner radius of crown _____
 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 _____
 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 JOHN G. KINCAID & CO. LIMITED. _____ Manufacturer.
 _____ Director.

Dates of Survey ^{During progress of work in shops - -} _____ Are the approved plans of boiler and superheater forwarded herewith Yes
 while building ^{During erection on board vessel - - -} _____ (If not state date of approval.)
 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 Rules and approved plans. The materials & workmanship are sound & good.
For recommendations please see machinery report.

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

See machinery report

Charles J. Hendry
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 2 MAR 1943
 Assigned SEE ACCOMPANYING MACHINERY REPORT.

