

# REPORT ON BOILERS.

No. 20484.

JAN 12 1938

Received at London Office

Date of writing Report 1.12 1937 When handed in at Local Office 30<sup>th</sup> DEC. 1937 Port of Greenock

No. in Reg. Book. Greenock Survey held at Greenock Date, First Survey 14<sup>th</sup> JUNE. 1934. Last Survey 29<sup>th</sup> DECEMBER 1937.

on the S/S "Jalakraishna" (Number of Visits ) Tons { Gross 4990.61 Net 3044.74

Master Greenock Built at P. Glasgow By whom built Lithgow Yard No. 904 When built 1937  
Engines made at Greenock By whom made John & T. Caird & Co. Engine No. 695 When made 1937  
Boilers made at ditto By whom made ditto Boiler No. 695 When made 1937  
Nominal Horse Power \_\_\_\_\_ Owners Seindias & Co. Port belonging to Bombay.

## MULTITUBULAR BOILERS—MAIN, \_\_\_\_\_

Manufacturers of Steel Thomas Nelson & Son, Bolville, Scotland & Co. (Letter for Record R ✓)

Total Heating Surface of Boilers 4563 # Is forced draught fitted yes Coal or Oil fired Coal

No. and Description of Boilers 3 Single Ended Working Pressure 220 ✓

Tested by hydraulic pressure to 380 ✓ Date of test 22.10.37 No. of Certificate 2124 Can each boiler be worked separately yes ✓

Area of Firegrate in each Boiler 63.25 # No. and Description of safety valves to each boiler one Double Spring ✓

Area of each set of valves per boiler { per Rule 13.4 # as fitted 14.12 # Pressure to which they are adjusted 225 Are they fitted with easing gear yes ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 1-9" 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 14.10 9/16" Length 11-6" Shell plates: Material S ✓ Tensile strength 29.33 ✓

Thickness 1 7/16" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams { end DR ✓ inter. \_\_\_\_\_

long. seams TRIDBS ✓ Diameter of rivet holes in { circ. seams 1 15/32" ✓ Pitch of rivets { 4.158" ✓ long. seams 1 7/16" ✓ 9.812" ✓

Percentage of strength of circ. end seams { plate 64.6 ✓ rivets 44.84 ✓ Percentage of strength of circ. intermediate seam { plate \_\_\_\_\_ ✓ rivets \_\_\_\_\_ ✓

Percentage of strength of longitudinal joint { plate 85.3 ✓ rivets 85.9 ✓ combined 84.48 ✓ Working pressure of shell by Rules 221

Thickness of butt straps { outer 1 3/32" ✓ inner 1 7/32" ✓ No. and Description of Furnaces in each Boiler 3 Maribous ✓ 9 cf

Material S Tensile strength 26-30 ✓ Smallest outside diameter 3.9 1/2" ✓

Length of plain part { top \_\_\_\_\_ ✓ bottom \_\_\_\_\_ ✓ Thickness of plates { crown 3/4" ✓ Description of longitudinal joint weld ✓ bottom \_\_\_\_\_ ✓

Dimensions of stiffening rings on furnace or c.c. bottom \_\_\_\_\_ Working pressure of furnace by Rules 243

End plates in steam space: Material S Tensile strength 26.30 ✓ Thickness 1 1/32" ✓ Pitch of stays 21.18 3/4" ✓

How are stays secured DN Washers ✓ Working pressure by Rules 222

Tube plates: Material { front S ✓ back S ✓ Tensile strength { 26.30 ✓ Thickness { 7/8" ✓ 1 1/16" ✓

Mean pitch of stay tubes in nests 8.5" Pitch across wide water spaces 13 1/2" ✓ Working pressure { front 241 ✓ back 232 ✓

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

at centre 10 x 3 1/4 (2) Length as per Rule 2.9 5/8" ✓ Distance apart 8 1/4" ✓ No. and pitch of stays

in each 3 at 8" ✓ Working pressure by Rules 230 Combustion chamber plates: Material S

Tensile strength 26.30 ✓ Thickness: Sides 1 1/16" ✓ Back 1 1/16" ✓ Top 1 1/16" ✓ Bottom 1 3/16" ✓

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

Working pressure by Rules 229 Front plate at bottom: Material S Tensile strength 26.30 ✓

Thickness 7/8" Lower back plate: Material S Tensile strength 26.30 ✓ Thickness 7/8" ✓

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

Working Pressure 226 Main stays: Material S Tensile strength 28.32 ✓

Diameter { At body of stay, 3 1/4" ✓ or \_\_\_\_\_ ✓ No. of threads per inch 6 ✓ Area supported by each stay 393.75 #

Working pressure by Rules 236 Screw stays: Material Iron ✓ Tensile strength 21 1/2 #

Diameter { At turned off part, 1 3/4" ✓ or \_\_\_\_\_ ✓ No. of threads per inch 9 ✓ Area supported by each stay 72 #



Working pressure by Rules 248 Are the stays drilled at the outer ends 90 Margin stays: Diameter 1 7/8" . 2" ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 96 3/4" Working pressure by Rules 221  
 Tubes: Material Iron ✓ External diameter 2 1/2" ✓ Thickness 7/16" 5/8" 5/16" ✓ No. of threads per inch 9 ✓  
 Pitch of tubes 3 5/8" + 3 1/16" ✓ Working pressure by Rules 241 Manhole compensation: Size of opening in  
 shell plate 16 1/2" + 20 1/2" ✓ Section of compensating ring 3' - 1" + 2' . 8 1/2" + 1' 5/32" ✓ No. of rivets and diameter of rivet holes 42 at 1 1/2" ✓  
 Outer row rivet pitch at ends 10" ✓ 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 \_\_\_\_\_ 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 \_\_\_\_\_ Manufacturer's 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 JOHN G. KINCAID & CO. LIMITED.  
W. Carter Director. 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.)  
 Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S/S Galagauga" Ent Rpt. No. 20151

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.

Survey Fee charged on Machinery Dept } When applied for, 19  
 Travelling Expenses (if any) £ : : } When received, 19

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

Committee's Minute GLASGOW 11 JAN 1938

Assigned SEE ACCOMPANYING MACHINERY REPORT.

