

REPORT ON BOILERS.

Received at London Office

20 NOV 1929

Date of writing Report *15-10-1929* When handed in at Local Office *14-10-1929* Port of *Greenock*

No. in Reg. Book. *M/M* Survey held at *Greenock* Date, First Survey *13th December 1928* Last Survey *14th November 1929*

on the *S/S "Bibury"* (Number of Visits) Gross *4616.56* Tons Net *2898.13*

Master Built at *Greenock* By whom built *Messrs Duncan's* Yard No. *393* When built *1929*

Engines made at *Greenock* By whom made *Rankin & Blackmore C^o Ltd* Engine No. *434* When made *1929*

Boilers made at *ditto* By whom made *ditto* Boiler No. *434* When made *1929*

Nominal Horse Power *489* Owners *Alexander Sutherland & Co^o Ltd* Port belonging to *London*

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Withowitz & Bergbau- und Eisenhütten Gewerkschaft* (Letter for Record *S*)

Total Heating Surface of Boilers *1260 sq ft* Is forced draught fitted *no* Coal or Oil fired *coal*

No. and Description of Boilers *one single-ended* Working Pressure *200 lbs*

Tested by hydraulic pressure to *350 lbs* Date of test *29-8-29* No. of Certificate *1888* Can each boiler be worked separately

Area of Firegrate in each Boiler *40 sq ft* No. and Description of safety valves to each boiler *one double lockburn's Improved Highlift*

Area of each set of valves per boiler { per Rule *3.64 sq ft* as fitted *6.28 sq ft* } Pressure to which they are adjusted *205 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 *25"* Is oil fuel carried in the double bottom under boilers *no*

Smallest distance between shell of boiler and tank top plating *29 1/2"* Is the bottom of the boiler insulated *yes*

Largest internal dia. of boilers *12'-4 3/32"* Length *10'-6"* Shell plates: Material *S* Tensile strength *28-32 Tns*

Thickness *1 3/32"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams { end *Double* inter. *✓* } long. seams *St D.B.S.* Diameter of rivet holes in { circ. seams *1 1/4"* long. seams *1 3/16"* } Pitch of rivets { *3.8"* *8 9/16"* }

Percentage of strength of circ. end seams { plate *67* rivets *45.7* } Percentage of strength of circ. intermediate seam { plate *86.07* rivets *86.14* combined *89.4* }

Percentage of strength of longitudinal joint { plate *86.07* rivets *86.14* combined *89.4* } Working pressure of shell by Rules *206.1 lbs*

Thickness of butt straps { outer *7/8"* inner *1"* } No. and Description of Furnaces in each Boiler *Two Dighton Type 24*

Material *S* Tensile strength *26-30 Tns* Smallest outside diameter *3'-8 1/4"*

Length of plain part { top *✓* bottom *✓* } Thickness of plates { crown *5/8"* bottom *5/8"* } Description of longitudinal joint

Dimensions of stiffening rings on furnace or e.c. bottom *✓* Working pressure of furnace by Rules *206 lbs*

End plates in steam space: Material *S* Tensile strength *26-30 Tns* Thickness *1 3/32"* Pitch of stays *18 1/2" x 18"*

How are stays secured *nuts inside & outside* Working pressure by Rules *208 lbs*

Tube plates: Material { front *S* back *S* } Tensile strength { *26-30 Tns* } Thickness { *1"* }

Mean pitch of stay tubes in nests *8 7/8"* Pitch across wide water spaces *13 3/4" dia* Working pressure { front *215 lbs* back *200 lbs* }

Girders to combustion chamber tops: Material *S* Tensile strength *28-32 Tns* Depth and thickness of girder

at centre *9" x 1 1/2"* Length as per Rule *2'-7 13/32"* Distance apart *10"* No. and pitch of stays

in each *3 @ 8 7/8"* Working pressure by Rules *203.2 lbs* Combustion chamber plates: Material *S*

Tensile strength *26-30 Tns* Thickness: Sides *23/32"* Back *23/32"* Top *23/32"* Bottom *27/32"*

Pitch of stays to ditto: Sides *10" x 8 7/8"* Back *9 3/4" x 9 3/4"* Top *10" x 8 7/8"* Are stays fitted with nuts or riveted over *nuts*

Working pressure by Rules *201 lbs* Front plate at bottom: Material *S* Tensile strength *26-30 Tns*

Thickness *1"* Lower back plate: Material *S* Tensile strength *26-30 Tns* Thickness *7/8"*

Pitch of stays at wide water space *13 1/4" x 9 3/4"* Are stays fitted with nuts or riveted over *nuts*

Working Pressure *203.5 lbs* Main stays: Material *S* Tensile strength *28-32 Tns*

Diameter { At body of stay, or Over threads *3"* } No. of threads per inch *6* Area supported by each stay *333 sq in*

Working pressure by Rules *202 lbs* Screw stays: Material *S* Tensile strength *26-30 Tns*

Diameter { At turned off part, or Over threads *1 3/4"* } No. of threads per inch *9* Area supported by each stay *90 7/16 sq in*

Working pressure by Rules 201.18 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 2" At turned off part or Over threads 2"
 No. of threads per inch 9 Area supported by each stay 109 1/16 sq" Working pressure by Rules 226 lbs
 Tubes: Material Iron External diameter 3 1/4" Thickness 3/16" No. of threads per inch 9
 Pitch of tubes 4 7/16" Working pressure by Rules 225 lbs Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 2' 10 1/16" x 2' 5 1/16" x 1 5/16" No. of rivets and diameter of rivet holes 28 @ 1 3/16"
 Outer row rivet pitch at ends 8 1/16" Depth of flange if manhole flanged 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 _____
 Number of elements _____ Material of tubes _____ Manufacturers of Tubes _____
Steel castings _____ 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,
RANKIN & BLACKMORE, LTD.,
 Manufacturer.
 Director.

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 1

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This Boiler has been built under special survey in accordance with the approved plans & the workmanship & material are of good quality. It is now securely fitted on board.
This Report accords with the trial of the Machinery.

Survey Fee ... charged on Mady Rpt : _____
 Travelling Expenses (if any) : _____
 When applied for. 192 _____
 When received. 192 _____

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

Committee's Minute **GLASGOW 19 NOV 1929**

Assigned See accompanying machinery report.

