

REPORT ON BOILERS.

--2 DEC 1930

Received at London Office

Date of writing Report 19 28.11.30 When handed in at Local Office 28.11.30 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Scotswood Date, First Survey 28 March Last Survey 26 Nov 1930

Reg. Book. 89443, on the M.V. "ATTILA" (Number of Visits —) Gross 7913 Tons Net 4729

Master Walker. Built at Walker. By whom built Sir W.G. Armstrong Whitworth & Co. Ltd Yard No. 1066 When built 1930

Engines made at Scotswood By whom made Messrs. Sir W.G. Armstrong Whitworth & Co. Ltd Engine No. 94 When made 1930

Boilers made at Scotswood By whom made Messrs. Sir W.G. Armstrong Whitworth & Co. Ltd Boiler No. 94 When made 1930

Nominal Horse Power 776. Owners JAKHELLN. Port belonging to OSLO.

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

Manufacturers of Steel D. Colville & Sons Glasgow (Plates) J. Thompson & Sons Wolverhampton (Furnaces) (Letter for Record S.)

Total Heating Surface of Boilers 1240 sqft. Is forced draught fitted No. Coal or Oil fired Waste Heat & oil fired

No. and Description of Boilers One S.E. Multitubular Working Pressure 150 lbs

Tested by hydraulic pressure to 275 lbs Date of test 20/8/30 No. of Certificate 490 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler — No. and Description of safety valves to each boiler 2 Spring loaded. High Lift

Area of each set of valves per boiler 6.28 Pressure to which they are adjusted 150 lbs Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes

Smallest distance between boilers or uptakes and bunkers or woodwork — Is oil fuel carried in the double bottom under boilers Yes.

Smallest distance between shell of boiler and tank top plating — Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 11'-1 3/8" Length 10'-6" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 3/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams end D.R. Lap. inter. 3-29"

long. seams D.R. Double Butt Straps Diameter of rivet holes in 1" Pitch of rivets 5 1/2"

Percentage of strength of circ. end seams 69.7% plate 46.6% rivets Percentage of strength of circ. intermediate seam 81.0% plate 81.0% rivets

Percentage of strength of longitudinal joint 81.0% plate 89.5% rivets Working pressure of shell by Rules 153 lbs.

Thickness of butt straps 1 1/2" No. and Description of Furnaces in each Boiler 3 Deighton Section.

Material Steel Tensile strength 26-30 tons Smallest outside diameter 2'-6"

Length of plain part — Thickness of plates 3/8" Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom None. Working pressure of furnace by Rules 176 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 5/16" Pitch of stays 17 1/2" x 15"

How are stays secured Nuts & washers inside & outside Working pressure by Rules 152 lbs

Tube plates: Material Steel Tensile strength 26-30 tons Thickness 1 1/16"

Mean pitch of stay tubes in nests 8 7/8" Pitch across wide water spaces 13 7/8" Working pressure front 165 lbs back 212 lbs

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder —

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

in each 2 @ 9 1/2" Working pressure by Rules 201 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 5/8" Back 1 1/32" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 10" x 8 7/8" Back 8 7/8" x 8 7/8" Top 9 3/8" x 9 1/2" Are stays fitted with nuts or riveted over Nutted

Working pressure by Rules 151 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 1 5/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 1 5/16"

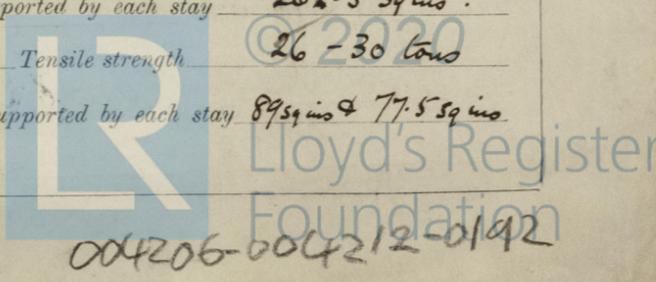
Pitch of stays at wide water space 14" x 8 3/4" Are stays fitted with nuts or riveted over Nutted.

Working Pressure 265 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter 2 1/2" No. of threads per inch 6. Area supported by each stay 262.5 sq ins.

Working pressure by Rules 168 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter 1 1/2" & 1 5/8" No. of threads per inch 9. Area supported by each stay 89 sq ins & 77.5 sq ins.



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Working pressure by Rules $169 \frac{1}{16}$ & $161 \frac{1}{16}$ Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1 \frac{1}{8} \text{\"} \& 1 \frac{1}{8} \text{\"} \\ \text{or} \\ \text{Over threads} \end{array} \right.$

No. of threads per inch 9 Area supported by each stay $9750 \text{\"}^2 \& 102 \text{sq in.}$ Working pressure by Rules $154 \frac{1}{16}$ & $177 \frac{1}{16}$

Tubes: Material Steel External diameter $\left\{ \begin{array}{l} \text{Plain } 3 \frac{1}{4} \text{\"} \& 2 \frac{1}{2} \text{\"} \\ \text{Stay } 3 \frac{1}{4} \text{\"} \& 2 \frac{1}{2} \text{\"} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 9 \text{wg} \& 10 \text{wg.} \\ \frac{1}{4} \text{\"} \& \frac{5}{16} \text{\"} \end{array} \right.$ No. of threads per inch 9

Pitch of tubes $3 \frac{1}{8} \times 3 \frac{1}{2} \text{\"} \& 4 \frac{3}{8} \times 4 \frac{1}{4} \text{\"}$ Working pressure by Rules Rain 175 $\frac{1}{16}$ Stay 202 $\frac{1}{16}$ \" Manhole compensation: Size of opening in shell plate $20 \frac{1}{2} \text{\"} \times 16 \frac{1}{2} \text{\"}$ Section of compensating ring $19 \text{\"} \times 1 \frac{3}{16} \text{\"}$ No. of rivets and diameter of rivet holes 38 @ 1 $\frac{1}{16}$ \"

Outer row rivet pitch at ends 6 $\frac{3}{4}$ \" Depth of flange if manhole flanged 3 $\frac{1}{8}$ \" 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 None Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

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 Yes

The foregoing is a correct description,

OR L. J. P. Smith Manufacturer.
OR W. G. ARMSTRONG WHITWORTH & COMPANY (ENGINEERS) LIMITED

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$ See Incy Report Are the approved plans of boiler and superheater forwarded herewith 8-5-30 (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.) The boiler has been built under Special Survey and in accordance with the Society's Rules & approved plan. The materials & workmanship are sound and good. The boiler was hydraulically tested as per Rules & found satisfactory. The safety valves were adjusted under steam to the approved working pressure.

Survey Fee ... For Fee £ _____ When applied for, _____ 19 _____

Travelling Expenses (if any) £ See Incy Report _____ When received, _____ 19 _____

L. J. P. Smith
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 9 DEC 1930

Assigned See other 7 E Rpt