

REPORT ON BOILERS.

No. 86497

-2 DEC 1930

Received at London Office

Date of writing Report 19 When handed in at Local Office 28.11.1930 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Reg. Book.

Scotswood

Date, First Survey 28 March Last Survey 26 Nov 1930

89443, on the

M.V. "ATTILA"

(Number of Visits —) Gross 7913 Tons Net 4729

Master 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 sq ft. 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 lb/sq in.

Tested by hydraulic pressure to 275 lb/sq in. 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 {per Rule as fitted 6.28 Pressure to which they are adjusted 150 lb/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 Is oil fuel carried in the double bottom under boilers

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 {circ. seams 1" long. seams 1" Pitch of rivets {5 7/8"

Percentage of strength of circ. end seams {plate 69.7% rivets 46.6% Percentage of strength of circ. intermediate seam {plate 81.0% rivets 81.0% Working pressure of shell by Rules 153 lb/sq in.

Percentage of strength of longitudinal joint {plate 81.0% rivets 89.5% combined Thickness of butt straps {outer 1 1/2" inner 1 3/16" 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 {top Thickness of plates {crown 3/8" bottom Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 176 lb/sq in.

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 lb/sq in.

Tube plates: Material {front Steel Tensile strength 26-30 tons Thickness 1 5/16" back Steel Tensile strength 26-30 tons Thickness 1 5/16"

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

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 lb/sq in. Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 5/8" Back 1 3/32" 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 Nuts

Working pressure by Rules 151 lb/sq in. 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 Nuts.

Working Pressure 265 lb/sq in. Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay, 2 1/2" No. of threads per inch 6. Area supported by each stay 262.5 sq in.

Working pressure by Rules 168 lb/sq in. Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 1/2" & 1 5/8" No. of threads per inch 9. Area supported by each stay 89 sq in. & 77.5 sq in.

Working pressure by Rules $169\frac{1}{2}$ & $171\frac{1}{2}$ Are the stays drilled at the outer ends *No* Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1\frac{5}{8}'' \text{ \& } 1\frac{7}{8}'' \\ \text{or} \\ \text{Over threads} \end{array} \right.$
No. of threads per inch *9* Area supported by each stay $9750'' \times 1025\text{sq. in.}$ Working pressure by Rules $154\frac{1}{2}$ & $177\frac{1}{2}$
Tubes: Material *Steel* External diameter $\left\{ \begin{array}{l} \text{Plain } 3\frac{1}{4}'' \text{ \& } 2\frac{1}{2}'' \\ \text{Stay } 3\frac{1}{4}'' \text{ \& } 2\frac{1}{2}'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 9\text{wg \& } 10\text{wg.} \\ \frac{1}{4}'' \text{ \& } 5\frac{1}{16}'' \end{array} \right.$ No. of threads per inch *9*
Pitch of tubes $3\frac{1}{8}'' \times 3\frac{1}{2}'' \text{ \& } 4\frac{3}{8}'' \times 4\frac{1}{4}''$ Working pressure by Rules *Rem 175\frac{1}{2} Stay $202\frac{1}{2}$ Manhole compensation: Size of opening in
shell plate $20\frac{1}{2}'' \times 16\frac{1}{2}''$ Section of compensating ring $19'' \times 1\frac{3}{16}''$ 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,

W. H. C. Armstrong Whitworth & Company (Engineers) Limited Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops - -} \\ \text{while building} \end{array} \right.$ $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel - - -} \end{array} \right.$ *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. Skedd.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 9 DEC 1930

Assigned

See other 7 E Rpt



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Foundation