

REPORT ON BOILERS.

No. 13849

Received at London Office

15 OCT 1929

Date of writing Report 14.10.1929 When handed in at Local Office 14.10.1929 Port of MIDDLESBROUGH

No. in Reg. Book Survey held at STOCKTON Date, First Survey 26 Aug/29 Last Survey 10.10.1929 (Number of Visits 10) Gross 8033

on the boiler for the "Armstrong Whitworth & Co. M.V. ANGLO SWEDE." Tons Net 4498

Built at Newcastle By whom built Sir W.G. Armstrong Whitworth & Co. Ltd. Yard No. 1048 When built 1930.

Engines made at Stockholm By whom made Aktief. Atlas Diesel Engine No. 50122 When made 1930.

Boilers made at Scotswood Stockton By whom made Sir W.G. Armstrong Whitworth & Co. Ltd. Boiler No. 5929 When made 1930.

Owners Rederiaktief. Lanken Port belonging to Stockholm.

VERTICAL DONKEY BOILER.

Made at Stockholm By whom made Riley Bros. Boiler No. 5929 When made 1929 Where fixed Engine Room Hat.

Manufacturers of Steel Appleby Iron Co.

Total Heating Surface of Boiler 800 sq. ft. Is forced draught fitted No. Coal or Oil fired oil

No. and Description of Boilers 1 Vertical Riley Type Working pressure 130 lbs.

Tested by hydraulic pressure to 245 lbs. Date of test 10. Oct. 1929 No. of Certificate 6741.

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

Area of each set of valves per boiler { per rule 8.3 sq. ins. Pressure to which they are adjusted 130 lbs./sq. ins. Are they fitted with easing gear Yes.

State whether steam from main boilers can enter the donkey boiler No. Smallest distance between boiler or uptake and bunkers

or woodwork Is oil fuel carried in the double bottom under boiler Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated Largest internal dia. of boiler 7'-6" Height 18'-6"

Shell plates: Material Steel Tensile strength 29/33 Thickness 1 1/16"

Are the shell plates welded or flanged No. Description of riveting: circ. seams { end S.R. long seams T.R. Lap. T.B. Calc.

Dia. of rivet holes in { circ. seams 32" Pitch of rivets T.B. 2 1/8" T.B. Calc. plate 57.3 69.8 T.B. Calc. rivets 42.4 60.2 of Longitudinal joint { rivets 76.0 70.8 combined.

Working pressure of shell by rules 137 lbs. Thickness of butt straps { outer inner

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished (spherical) Material Steel

Tensile strength 26/30 Thickness 25/32 Radius 4'-11 7/32" Working pressure by rules 131 lbs.

Description of Furnace: Plain, spherical, or dished crown spherical Material Steel Tensile strength 26/30

Thickness 21/32 External diameter { top bottom Length as per rule Working pressure by rules 135 lbs.

Pitch of support stays circumferentially and vertically Are stays fitted with nuts or riveted over

Diameter of stays over thread Radius of spherical furnace crown 3'-4 1/2" Working pressure by rule 135 lbs.

Thickness of Ogee Ring 21/32 Diameter as per rule { D 7'-4 7/8" Working pressure by rule 78 lbs. (neglecting crown support)

Combustion Chamber: Material Steel Tensile strength 26/30 Thickness of top plate 11/16"

Radius if dished Working pressure by rule 135 lbs. Thickness of back plate 21/32 RAD. Diameter if circular 3'-3"

Length as per rule Pitch of stays 12" x 8 3/4" Are stays fitted with nuts or riveted over nuts

Diameter of stays over thread 1 9/8" Working pressure of back plate by rules 136 lbs.

Tube Plates: Material { front Steel Tensile strength { 29/33 Thickness { 13/16" Mean pitch of stay tubes in nests 9"

If comprising shell, Dia. as per rule { front Pitch in outer vertical rows 7" x 10 1/2" Dia. of tube holes FRONT { stay 2 3/4" BACK { stay 2 1/2"

Is each alternate tube in outer vertical rows a stay tube 44. Working pressure by rules { front 139 lbs. back 187 lbs.

Girders to combustion chamber tops: Material Steel Tensile strength 29/33

Depth and thickness of girder at centre 9 1/4" x 3/4" (double) Length as per rule 2'-5"

Distance apart 12" No. and pitch of stays in each 2.10" Working pressure by rule 238 lbs.

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1200-1711M

Rpt. 5a

Crown stays: Material *steel plate* ✓ Tensile strength $\frac{28}{32}$ ✓ Diameter { at body of stay, ✓
or
over threads ✓
No. of threads per inch ✓ Area supported by each stay 360^{sq} Working pressure by rules 130 lbs (app'd)

Screw stays: Material *steel* ✓ Tensile strength $\frac{26}{30}$ ✓ Diameter { at turned off part, ✓
or
over threads ✓
No. of threads per inch 9 ✓
Area supported by each stay 103^{sq} Working pressure by rules 147 lbs Are the stays drilled at the outer ends 40 ✓

Tubes: Material *iron* ✓ External diameter { plain $2\frac{1}{2} \text{ to } 2\frac{3}{4}$ ✓
stay $2\frac{1}{2} \text{ to } 2\frac{3}{4}$ ✓ Thickness $\frac{10}{16}$ ✓
No. of threads per inch 9 ✓ Pitch of tubes $3\frac{1}{2}, 3\frac{1}{2}, 3\frac{1}{2}, 3\frac{1}{2}$ ✓ Working pressure by rules $p. 175 \text{ lbs. s. } 176 \text{ lbs.}$

Manhole Compensation: Size of opening in shell plate ✓ Section of compensating ring ✓
of rivet holes ✓ Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓

Uptake: External diameter ✓ Thickness of uptake plate ✓
Cross Tubes: No. ✓ External diameters ✓ Thickness of plates ✓

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *Yes*.

The foregoing is a correct description,

BILEY BROS. (BOILERMAKERS) LIMITED, Manufacture

Geo. W. Biley

Yes

Is the approved plan of boiler forwarded herewith
(If not state date of approval.)

Total No. of visits 10

Dates of Survey { During progress of work in shops - *1929 Aug 26 Sep 2 5 12 20 24 30 Oct 1 5 10*
while building { During erection on board vessel - - -

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good.
This boiler has been built under special survey in accordance with the Rule and Approved Plan. It is being sent to Newcastle.

This boiler has been securely fastened on board this vessel and its safety valves adjusted under steam to the working pressure.

L. Peskett

Survey Fee ... £ $5-6-0$ When applied for, *Monthly*
Travelling Expenses (if any) £ : : When received, 19

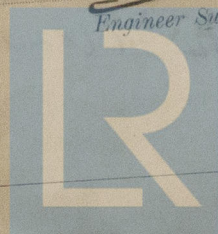
P. J. Man.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned

FRI. 14 MAR 1930

See Nwc. J.E. 85442



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