

Rpt. 5a.

REPORT ON BOILERS.

No. 14281

Received at London Office 6 - APR 1926

Date of writing Report 31st March 1926 When handed in at Local Office 31st March 1926 Port of Aberdeen

No. in Reg. Book Survey held at Aberdeen Date, First Survey 23.10.25 Last Survey 30.3.1926

on the S.S. "HORLEY" (Number of Visits 17) Tons { Gross 929 Net 494

Master Built at Aberdeen By whom built J. Lewis & Sons, Ltd. Yard No. 95 When built 1926

Engines made at Aberdeen By whom made J. Lewis & Sons, Ltd. Engine No. 162 When made 1926

Boilers made at Aberdeen By whom made J. Lewis & Sons, Ltd. Boilers No. 141/142 When made 1926

Nominal Horse Power 140 Owners E. J. Lindley Port belonging to London

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

Manufacturers of Steel The Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers 2378 Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers Two Ringle Ended 258 Working Pressure 200 lbs./sq.

Tested by hydraulic pressure to 350 lbs./sq. Date of test 14.2.26 No. of Certificate 1047 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 34.4 No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler { per Rule 6.89 as fitted 7.96 } Pressure to which they are adjusted 205 lbs./sq. 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 4'-11" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating - Is the bottom of the boiler insulated no

Largest internal dia. of boilers 11'-3" Length 10'-6" Shell plates: Material Steel Tensile strength 28/32 tons/sq.

Thickness 1 1/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end D.R. LAP. inter. - }

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 1/16" long. seams 1 1/16" } Pitch of rivets { 2.987" 7 1/16" }

Percentage of strength of circ. end seams { plate 64.3 rivets 47.3 } Percentage of strength of circ. intermediate seam { plate - rivets - }

Percentage of strength of longitudinal joint { plate 86.2 rivets 86.4 combined 89.6 } Working pressure of shell by Rules 201 lbs./sq.

Thickness of butt straps { outer 25" inner 29" } No. and Description of Furnaces in each Boiler Two plain

Material Steel Tensile strength 26/30 tons/sq. Smallest outside diameter 3'-5"

Length of plain part { top 6'-8 3/8" bottom 7'-2" } Thickness of plates { crown 13/16" bottom 1 1/16" } Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or a.o. bottom 3 1/2" x 3 1/2" x 3/4" Angle Working pressure of furnace by Rules 206 lbs./sq.

End plates in steam space: Material Steel Tensile strength 26/30 tons/sq. Thickness 1" Pitch of stays 5 3/4" x 14 1/2"

How are stays secured D. nuts Working pressure by Rules 201 lbs./sq.

Tube plates: Material { front Steel back Steel } Tensile strength { 26/30 tons/sq. } Thickness { 3 1/32" 25/32" }

Mean pitch of stay tubes in nests 10 1/8" Pitch across wide water spaces 14 1/8" Working pressure { front 231 lbs./sq. back 213 lbs./sq. }

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons/sq. Depth and thickness of girder at centre 8 1/2" x 2 @ 9/16" Length as per Rule 29 7/32" Distance apart 7 7/8" No. and pitch of stays in each 2 @ 9 1/4" Working pressure by Rules 205 lbs./sq. Combustion chamber plates: Material Steel

Tensile strength 26/30 tons/sq. Thickness: Sides 21/32" Back 11/16" Top 21/32" Bottom 21/32"

Pitch of stays to ditto: Sides 9 1/4" x 8" Back 7 1/2" x 10 1/8" Top 9 1/4" x 7 7/8" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 200 lbs./sq. Front plate at bottom: Material Steel Tensile strength 26/30 tons/sq.

Thickness 31/32" Lower back plate: Material Steel Tensile strength 26/30 tons/sq. Thickness 13/16"

Pitch of stays at wide water space 13 7/8" x 8 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 202 lbs./sq. Main stays: Material Steel Tensile strength 28/32 tons/sq.

Diameter { At body of stay - Over threads 2 5/8" } No. of threads per inch 6 Area supported by each stay 228.375

Working pressure by Rules 216 lbs./sq. Screw stays: Material Steel Tensile strength 26/30 tons/sq.

Diameter { At turned off part - Over threads 1 5/8" } No. of threads per inch 9 Area supported by each stay 74 1/2" x 58 1/2" x 72 8/16"

Working pressure by Rules $204.200 \times 207 \frac{116}{12}$ Are the stays drilled at the outer ends 90 Margin stays: Diameter { At turned off part, - or Over threads $1\frac{3}{4}$ Working pressure by Rules 200 lbs./sq. in.
No. of threads per inch 9 Area supported by each stay 90.84 Working pressure by Rules 200 lbs./sq. in.
Tubes; Material $L.W.W.I.$ External diameter { Plain $3\frac{1}{2}$ Stay $3\frac{1}{4}$ Thickness { $8.W.G.$ $\frac{1}{4} \times \frac{5}{16}$ No. of threads per inch 9
Pitch of tubes $4\frac{1}{2} \times 4\frac{1}{2}$ Working pressure by Rules 230 lbs./sq. in. Manhole compensation: Size of opening in shell plate 19×15 Section of compensating ring $8\frac{1}{2} \times 1\frac{1}{2}$ No. of rivets and diameter of rivet holes $40 R. 1\frac{1}{2}$ dia. holes
Outer row rivet pitch at ends $7\frac{1}{16}$ Depth of flange if manhole flanged $Comp. Ring Flange 3$ to $16 \times 12 M.H.$ 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 { 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 $None$ Manufacturers of { Tubes - 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 - 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 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,

John J. Donnelly Manufacturer.

Dates of Survey while building { During progress of work in shops - $1925 - OCT. 23. NOV. 4. 18. DEC. 1. 3. 30.$ Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.)
During erection on board vessel - $1926 - JAN. 12. 25. FEB. 8. 9. 17.$ Total No. of visits $17.$
 $1926 - MAR. 15. 18. 20. 24. 29. 30.$

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The boilers have been constructed under special survey in accordance with the rules and approved plan; the materials and workmanship are good. The boilers have been satisfactorily fitted on board the vessel; the safety valves adjusted under steam; boilers examined under full working conditions and found satisfactory.*

Survey Fee ... \pounds *See Report* When applied for, 192
Travelling Expenses (if any) \pounds *on Machinery* When received, 192

A. B. Forster

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute $WED. 7 APR 1926$

Assigned *See Minute on attached rpt abn 14281*



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