Rpt. 5a.

REPORT ON BOILERS.

No. 51570.

b.m.

Received at London Office 13 APR 1942

Date of writing Report 2. 4. 1942 When handed in at Local 10 APR 1942 19 Port of HULL.

No. in Reg. Book. Survey held at HULL. Date, First Survey 19. 8. 41. Last Survey 2. 4. 1942.

on the S.Tug ADHERENT. (Number of Visits 47.) Tons { Gross 601 / Net 3.

Built at SELBY. By whom built Cochrane & Sons. Yard No. 1738 When built 1942-4

Engines made at HULL. By whom made Chas. D. Holmes. Ld. Engine No. 1597 When made —

Boilers made at HULL. By whom made Chas D. Holmes Ld. Boiler No. 1597. When made —

Nominal Horse Power 222. Owners The Admiralty. Port belonging to —

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland. (Letter for Record S

Total Heating Surface of Boilers 3550 ☐'. Is forced draught fitted Yes. Coal or Oil fired Oil

No. and Description of Boilers One S.B. **Working Pressure** 210 lbs/□".

Tested by hydraulic pressure to 365 lbs/□" Date of test 20/1/42. No. of Certificate 4130. Can each boiler be worked separately —

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 (16.14.) 19.72 / as fitted 16.59. Approved } Pressure to which they are adjusted 210 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 2 feet. 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 —

Largest internal dia. of boilers 17'-0". Length 11'-6". **Shell plates:** Material Steel Tensile strength 31-34 tons/□"

Thickness 1 15/32" 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 3/16" / long. seams 1 17/32". } Pitch of rivets { 3 13/16". / 10 1/16". }

Percentage of strength of circ. end seams { plate 62-4%. / rivets 43-1%. } Percentage of strength of circ. intermediate seam { plate / rivets }

Percentage of strength of longitudinal joint { plate 85·0%. / rivets 86·7%. / combined 87·3%. }

Thickness of butt straps { outer 1 1/8" / inner 1 1/4". } **No. and Description of Furnaces in each Boiler** 3 cf. Deighton section.

Material Steel. Tensile strength 26/30 tons/□" Smallest outside diameter 4'-3 1/2".

Length of plain part { top — / bottom — } Thickness of plates { crown / bottom } 3/4". Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom NONE.

End plates in steam space: Material Steel Tensile strength 26/30 tons/□". Thickness 1 3/16". Pitch of stays 16" x 20 3/4".

How are stays secured Nuts & washers inside & out.

Tube plates: Material { front Steel / back Steel } Tensile strength { 26/30 tons/□". / 26/30 tons/□". } Thickness { 15/16" / 29/32". }

Mean pitch of stay tubes in nests 9 9/16". Pitch across wide water spaces 13 1/2" x 8 1/2".

Girders to combustion chamber tops: Material Steel Tensile strength 29/33 tons/□". Depth and thickness of girder at centre 9" x 7/8" double. Length as per Rule 2'-8 31/32". Distance apart 9 3/4". No. and pitch of stays in each 3 @ 7 3/4".

Combustion chamber plates: Material Steel.

Tensile strength 26/30 tons/□". Thickness: Sides 23/32". Back 23/32". Top 11/16". Bottom 7/8".

Pitch of stays to ditto: Sides 8 1/2" x 10" Back 9 1/2" x 8 7/8" Top 7 3/4" x 9 3/4". Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel Tensile strength 26/30 tons/□"

Thickness 15/16". **Lower back plate:** Material Tensile strength 26/30 tons/□". Thickness 23/32".

Pitch of stays at wide water space 13 3/4" x 8 7/8". Are stays fitted with nuts or riveted over Nuts.

Main stays: Material Steel. Tensile strength 28/32 tons/□"

Diameter { At body of stay, / or / Over threads } 3 1/8". No. of threads per inch 8

Screw stays: Material Steel Tensile strength 26/30 tons/□"

Diameter { At turned off part, / or / Over threads } 1 3/4". No. of threads per inch 9.

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Are the stays drilled at the outer ends No. ✓ *Margin stays: Diameter* { *At turned off part,* ✓ *or Over threads* 1⅞", 2", 2⅛". ✓

No. of threads per inch 9. ✓

Tubes: *Material* L.W. Iron. ✓ *External diameter* { *Plain* 3" ✓ *Stay* 3". ✓ } *Thickness* { 8 W.G. ✓ 5/16". 3/8. 7/16". ✓ } *No. of threads per inch* 10. ✓

Pitch of tubes 4¼" x 4¼". ✓ **Manhole compensation:** *Size of opening in shell plate* 16" x 12". ✓ *Section of compensating ring* 13/16" x 1 15/32. ✓ *No. of rivets and diameter of rivet holes* 16 @ 1 17/32". ✓

Outer row rivet pitch at ends 10 1/16". *Depth of flange if* Bottom *manhole flanged* 3⅜". ✓ **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* ___ *Thickness of crown* ___ *No. and diameter of stays* ___ *Inner radius of crown* ___~~

~~*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** ___ *Manufacturers of* { *Tubes* ___ *Steel forgings* ___ *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* ___~~

~~*Pressure to which the safety valves are adjusted* ___ *Hydraulic test pressure: tubes* ___ *forgings and 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,
FOR CHARLES D. HOLMES & CO., LTD.
W. R. Evans
Manufacturer.

Dates of Survey while building	*During progress of work in shops - -*	See machinery report attached.	*Are the approved plans of boiler and superheater forwarded herewith* ✓ (If not state date of approval.)
	During erection on board vessel - - -		*Total No. of visits* ✓

Is this Boiler a duplicate of a previous case ___ *If so, state Vessel's name and Report No.* ___

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

This Boiler has been constructed under special survey in accordance with the approved plans and the Rules.

The Workmanship and Materials are good and when subjected to a hydraulic test of 365. lbs □" it was found satisfactory in every respect.

Survey Fee ... ... £ : : ✓ When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

J. Stillman
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 APR 1942

Assigned See Hull F.E. 51570