

REPORT ON BOILERS.

No. 52626.

Received at London Office

Date of writing Report 15-8-44

When handed in at Local Office

3 NOV 1944

19

Port of HULL.

No. in Survey held at HULL

Date, First Survey 5.1.44

Last Survey 24.10.1944

Reg. Book.

(Number of Visits 46.)

Gross 762.24

Tons Net 77.82

On the STEAM TUG. ENIGMA.

A/MS. 791

Built at SELBY.

By whom built Cochrane & Co. Ltd

Yard No. 1287. When built 1944

Engines made at HULL.

By whom made Chas. D. Holmes & Co.

Engine No. 1679 When made

Boilers made at HULL.

By whom made Chas. D. Holmes & Co.

Boiler No. 1679 F.A. When made

Nominal Horse Power 269

Owners The Admiralty.

Port belonging to ✓

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. Ltd

(Letter for Record 5. ✓)

Total Heating Surface of Boilers 4300 sq ft (286 @ 2150) Is forced draught fitted Yes. ✓

Coal or Oil fired Oil. ✓

No. and Description of Boilers Two S.B. ✓

Working Pressure 220 lb/sq in.

Tested by hydraulic pressure to 380 lb/sq in. Date of test 16/4. 21/4. No. of Certificate 4230. Can each boiler be worked separately Yes. ✓

Area of Firegrate in each Boiler — (0.2) No. and Description of safety valves to each boiler Double Spring Loaded High Lift. ✓

Area of each set of valves per boiler { per Rule 9.5 sq in. 7.6 for ordinary H.L. as fitted 9.8 sq in. Pressure to which they are adjusted 220 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 1'-6". ✓

Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating — None

Is the bottom of the boiler insulated No

Largest internal dia. of boilers 13'-9". Length 11'-2". ✓

Shell plates: Material Steel Tensile strength 30-34 tons/sq in. ✓

Thickness 1 19/64". 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 5/16" long. seams 1 1/32". ✓

Pitch of rivets { 3 3/4" inter. 9 1/4" plate

Percentage of strength of circ. end seams { plate 65.0% rivets 42.65% ✓

Percentage of strength of circ. intermediate seam { plate 85.4% rivets 84.95% ✓

Percentage of strength of longitudinal joint { plate 85.4% rivets 84.95% combined 87.94% ✓

Thickness of butt straps { outer 1" inner 1 1/8". ✓

No. and Description of Furnaces in each Boiler 3. C.F. Deighton Section. ✓

Material Steel

Tensile strength 26-30 tons/sq in. ✓

Smallest outside diameter 3'-3". ✓

Length of plain part { top bottom

Thickness of plates { crown 3 5/8" bottom 3 5/8". ✓

Description of longitudinal joint Weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom —

End plates in steam space: Material Steel

Tensile strength 26-30 tons/sq in. ✓

Thickness 1 5/32". Pitch of stays 18 1/2" x 17". ✓

How are stays secured Nuts inside & out. Large washers outside. ✓

Tube plates: Material { front Steel back Steel

Tensile strength { 26-30 tons/sq in. 26-30 tons/sq in. ✓

Thickness { 1 5/16" 7/8". ✓

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

Girders to combustion chamber tops: Material Steel

Tensile strength 29-33 tons/sq in. ✓

Depth and thickness of girder

at centre 9" x 7/8" Double Length as per Rule 2'-6 5/32". ✓

Distance apart 10 1/2". ✓

No. and pitch of stays

in each 3 @ 7 1/2". ✓

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons/sq in. Thickness: Sides 2 3/32". Back 2 3/32". Top 2 3/32". Bottom 2 5/32". ✓

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

Front plate at bottom: Material Steel

Tensile strength 26-30 tons/sq in. ✓

Thickness 1 5/16".

Lower back plate: Material Steel

Tensile strength 26-30 tons/sq in. Thickness 7/8". ✓

Pitch of stays at wide water space 13 1/2" x 9 1/4". ✓

Are stays fitted with nuts or riveted over Nuts. ✓

Main stays: Material Steel

Tensile strength 28 tons min. ✓

Diameter { At body of stay, 3 1/8". or Over threads —

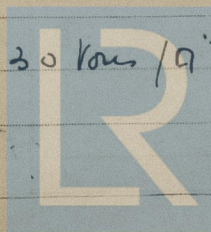
No. of threads per inch 8. ✓

Crew stays: Material Steel

Tensile strength 26-30 tons/sq in. ✓

Diameter { At turned off part, 1 3/4". or Over threads —

No. of threads per inch 10. ✓



© 2021

Lloyd's Register Foundation

008237-008247-0121

Are the stays drilled at the outer ends No. ✓ Margin stays: Diameter { At turned off part, or Over threads 1 7/8", 2", 2 1/4"

No. of threads per inch 10. ✓ Tubes: Material L.W. Iron. ✓ External diameter { Plain 3" Stay 3" Thickness { 8.W.G. ✓ 5/16" 3/8" No. of threads per inch 9. ✓

Pitch of tubes 4 1/4" x 4 1/4" ✓ Manhole compensation: Size of opening in shell plate 12" (x 16") ✓ Section of compensating ring 12 5/16" x 1 19/64" ✓ No. of rivets 16 @ 1 1/32" ✓ in sheer.

Outer row rivet pitch at ends 9 1/4" ✓ Depth of flange if Bottom manhole flanged 3 3/8" ✓ 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 { 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 NONE ✓ 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. Manufacturer.

1944 Jan 5-10-14-17-25 Apr 15-22-24-25-27-28 May 2-6-10-11-22
Dates of Survey { During progress of work in shops - - - June 21-25 SEE RPT. 4
while building { During erection on board vessel - - - 23-24-25-29-30 July 1-7-10-21 Aug 25
Are the approved plans of boiler and superheater forwarded herewith 15-3-43
(If not state date of approval.)
Total No. of visits 46.

Is this Boiler a duplicate of a previous case Yes. ✓ If so, state Vessel's name and Report No. S.TUG. ENVOY, 52467. Hull R

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

These Boilers have been constructed under Special Licence in accordance with the approved Admiralty plans and the Rules.

The Workmanship and Materials are good and, when subjected to an hydraulic test of 380 lb/sq. in. they were found satisfactory in every respect.

Boilers examined under steam, Safety Valves adjusted as over leaf. Accumulation test held and boiler found satisfactory in every respect on completion of tests.

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

W. Shields & J. F. ...
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 17 NOV. 1944

Assigned

see minute
on 16 Rpt.



© 2021

Lloyd's Register
Foundation