

REPORT ON BOILERS.

No. 51820

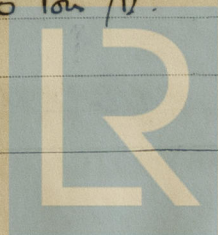
Received at London Office

Date of writing Report 26-10-1942. When handed in at Local Office 19 Port of HULL.

No. in Survey held at HULL. Date, First Survey 20. 4. 42 Last Survey 17. 11. 1942.
Reg. Book. on the H.M.T. MULLET. (Number of Visits 38) Gross 347 Tons Net 127Built at SELBY. By whom built Cochran & Co. Ltd. Yard No. 1253. When built 1942
Engines made at HULL. By whom made Amos Smith & Co. Engine No. 712. When made
Boilers made at HULL. By whom made Amos Smith & Co. Boiler No. 712. When made
Nominal Horse Power 125 Owners The Admiralty Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. Ltd. and Clivilles. (Letter for Record S)
Total Heating Surface of Boilers 1873. Is forced draught fitted Yes. Coal or Oil fired Coal
No. and Description of Boilers One S.B. Working Pressure 210 lb
Tested by hydraulic pressure to 365 lb Date of test 6-10-42 No. of Certificate 4163. Can each boiler be worked separately
Area of Firegrate in each Boiler 50 sq ft. No. and Description of safety valves to each boiler 2. Spring loaded
Area of each set of valves per boiler {per hole 12.57, 10.6 as fitted 14.12. Pressure to which they are adjusted 210 lb. 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 9". 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 14'-3 1/2" Length 10'-6". Shell plates: Material Steel Tensile strength 31-35 tons/in.
Thickness 1 1/4". Are the shell plates welded or flanged No. Description of riveting: circ. seams {end D.R. Cap. inter. 3 3/4".
long. seams T.R. D.B.S. Diameter of rivet holes in {circ. seams 1 5/16". Pitch of rivets {9 1/8".
Percentage of strength of circ. end seams {plate 64.9%. rivets 42.8%. Percentage of strength of circ. intermediate seam {plate 85.1%. rivets 85.8%.
Percentage of strength of longitudinal joint {combined 87.66%.
Thickness of butt straps {outer 3 1/32". inner 1 3/32". No. and Description of Furnaces in each Boiler 3. Cf. Deighra Section.
Material Steel Tensile strength 26-30 tons/in. Smallest outside diameter 3'-6 3/4".
Length of plain part {top 1' 1/2". bottom 1' 1/2". Thickness of plates {crown 5/8". bottom 3/8". 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/in. Thickness 1 3/32". Pitch of stays 17' x 17 1/2".
How are stays secured Nuts and washers inside and out.
Tube plates: Material {front Steel Tensile strength 26-30 tons/in. Thickness 1 5/16". {back Steel Tensile strength 26-30 tons/in. Thickness 7/8".
Mean pitch of stay tubes in nests 9 1/4" x 9". Pitch across wide water spaces 14" x 9".
Girders to combustion chamber tops: Material Steel Tensile strength 29-33 tons/in. Depth and thickness of girder at centre 9" x 7/8". Double Length as per Rule 2'-10 3/32". Distance apart 8". No. and pitch of stays in each 3 @ 8 1/4".
Combustion chamber plates: Material Steel.
Tensile strength 26-30 tons/in. Thickness: Sides 2 3/32". Back 2 3/32". Top 2 3/32". Bottom 2 3/32".
Pitch of stays to ditto: Sides 8 1/2" x 9 3/4". Back 9 1/4" x 9". Top 8 1/4" x 8". Are stays fitted with nuts or riveted over Nut.
Front plate at bottom: Material Steel Tensile strength 26-30 tons/in.
Thickness 1 5/16". Lower back plate: Material Steel Tensile strength 26-30 tons/in. Thickness 7/8".
Pitch of stays at wide water space 14" x 9". Are stays fitted with nuts or riveted over Nut.
Main stays: Material Steel Tensile strength 28-32 tons/in.
Diameter {At body of stay, 3". No. of threads per inch 6 {Over threads 3".
Screw stays: Material Steel Tensile strength 26-30 tons/in.
Diameter {At turned off part, 1 3/4". No. of threads per inch 9 {Over threads 1 3/4".



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Are the stays drilled at the outer ends No.

Margin stays: Diameter { At turned off part, 1 1/4"
or 1 1/8"
Over threads 2"

No. of threads per inch 9.

Tubes: Material L.W. Iron External diameter { Plain 3 1/4"
Stay 3 1/4"

Thickness { 8.W.G.
5/16", 3/8", 7/16" No. of threads per inch 9.

Pitch of tubes 4 1/2" x 4 5/8"

Manhole compensation: Size of opening in

shell plate 12" (x16") Section of compensating ring 3 5/8" x 1 1/4" No. of rivets and diameter of rivet holes 61 @ 1 1/32"

Outer row rivet pitch at ends 10.45 Depth of flange if manhole flanged 3 3/8"

Steam Dome: Material Steel

Tensile strength 26-30 Tons/in² Thickness of shell 3/4" Description of longitudinal joint S.R. Lap.

Diameter of rivet holes 1 1/32" Pitch of rivets 2 1/4" Percentage of strength of joint { Plate 54%
Rivets 43.8%

Internal diameter 2'-9" Thickness of crown 7/8" No. and diameter of

stays 2 @ 2 1/4" Inner radius of crown Flat.

How connected to shell Riveted Size of doubling plate under dome 4'-9 1/2" x 1 1/4" Diameter of rivet holes and pitch

of rivets in outer row in dome connection to shell 1 1/32" @ 10.45" pitch.

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 on

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

per pro AMOS & SMITH LTD.
The foregoing is a correct description,

ASST. SECRETARY Manufacturer.

Dates { During progress of
of Survey work in shops - -
while { During erection on
building board vessel - -

See Machinery
report

Are the approved plans of boiler and superheater forwarded herewith
(If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case Yes

If so, state Vessel's name and Report No. GRAYLING

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

This Boiler has been examined under Special Survey in accordance with the approved Admiralty 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.

This boiler has been installed in HMT Mullet in accordance with the Rules, examined under steam, safety valves adjusted to 210 lbs and furnace combustion chambers examined after trials

W.S. Shillies

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

J. P. Allen
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI, 4 DEC 1942

Assigned

See Incl. 28 P 51820



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