

Rpt. 5a.

REPORT ON BOILERS.

No. 58120.

Received at London Office 9 SEP 1943

Date of writing Report 30-8-1943

When handed in at Local Office 6 SEP 1943

Port of HULL

No. in Reg. Book. Survey held at HULL

Date, First Survey 26. 3. 43

Last Survey 25. 8. 43

19 43.

on the STEAM TUG [EMPIRE SYBIL

(Number of Visits 19)

Gross 276

Net 112

Built at SELBY

By whom built

Cochrane & Co. Ltd

Yard No. 1268

When built 1943

Engines made at HULL

By whom made

Amos & Smith Ltd

Engine No. 728

When made

Boilers made at HULL

By whom made

Amos & Smith Ltd

Boiler No. 728

When made

Nominal Horse Power 132.

Owners

Ministry of War Transport

Port belonging to

Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appleby Frodingham Steel Co. Ltd

(Letter for Record 5)

Total Heating Surface of Boilers

2390 sq. ft.

Is forced draught fitted No.

Coal or Oil fired Coal

No. and Description of Boilers

One S.B.

Working Pressure 200 lb./sq. in.

Tested by hydraulic pressure to

350 lb./sq. in.

Date of test

5.7.43

No. of Certificate

4194

Can each boiler be worked separately

Area of Firegrate in each Boiler

63.2 sq. ft.

No. and Description of safety valves to each boiler

2. Spring loaded

Area of each set of valves per boiler

per Rule

13.9 sq. ft.

as fitted

14.137 sq. ft.

Pressure to which they are adjusted

200 lb./sq. in.

Are they fitted with easing gear

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

15'-6 1/4"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons/sq. in.

Thickness

1 3/8"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

D.R. Lap.

long. seams

T.R., D.B.S.

Diameter of rivet holes in

circ. seams

1 13/32"

long. seams

1 13/32"

Pitch of rivets

4 3/16"

inter.

9 7/8"

Percentage of strength of circ. end seams

plate

66.4%

rivets

42.7%

Percentage of strength of circ. intermediate seam

plate

85.7%

rivets

Percentage of strength of longitudinal joint

plate

85.7%

rivets

85.0%

combined

90.15%

Thickness of butt straps

outer

1 1/16"

inner

1 3/16"

No. and Description of Furnaces in each Boiler

3. Cf. Deighton Section

Material

Steel

Tensile strength

26-30 tons/sq. in.

Smallest outside diameter

3'-11 3/8"

Length of plain part

top

bottom

Thickness of plates

crown

3 1/16"

bottom

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 3/16"

Pitch of stays

18 3/4" x 18 1/2"

How are stays secured

Nuts inside and out.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26-30 tons/sq. in.

Thickness

15/16"

7/8"

Mean pitch of stay tubes in nests

9 1/2" x 9 1/2"

Pitch across wide water spaces

14 1/4" x 9 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-33 tons/sq. in.

Depth and thickness of girder

at centre

9 1/2"

Length as per Rule

2'-11"

Distance apart

9"

in each

3 @ 8 3/4"

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons/sq. in.

Thickness: Sides

3/4"

Back

2 3/32"

Top

2 3/32"

Bottom

Pitch of stays to ditto: Sides

9 1/2" x 8 3/4"

Back

9 1/2" x 8 1/2"

Top

9" x 8 3/4"

Are stays fitted with nuts or riveted over

Nuts.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons/sq. in.

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons/sq. in.

Thickness

Pitch of stays at wide water space

14 1/4" x 8 1/2"

Are stays fitted with nuts or riveted over

Nuts.

Main stays: Material

Steel

Tensile strength

28-32 tons/sq. in.

Diameter

At body of stay,

3 1/4"

Over threads

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26-30 tons/sq. in.

Diameter

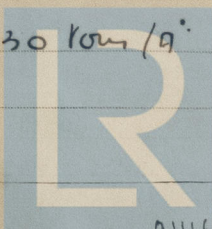
At turned off part,

1 3/4"

Over threads

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. 1 7/8" or 2" Over threads 1 7/8" 2"

No. of threads per inch 9

Tubes: Material L.W. Iron External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 8.W.G. 5/16" No. of threads per inch 9

Pitch of tubes 4 3/4" Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 15" x 1 3/8" No. of rivets and diameter of rivet holes 28 @ 1 1/2"

Outer row rivet pitch at ends 9 7/8" 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 (a)

FOR AMOS & SMITH LTD.
The foregoing is a correct description,
W. C. Brown Manufacturer.

Dates of Survey { During progress of work in shops - - Mar 26. May 31. June 28. July 5. Aug 19 Are the approved plans of boiler and superheater forwarded herewith 3-7-41 (If not state date of approval.)

while building { During erection on board vessel - - As on machinery report. Total No. of visits 19

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. EMPIRE FAIRY. Hull RM. 51664.

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

This Boiler has been constructed under Special Survey in accordance with the Rules and the approved plan

The Workmanship and Materials are good and, when subjected to an hydraulic pressure of 350 @ 10" it was found satisfactory in every respect.

Above Boiler installed onboard "EMPIRE SYBIL" at Hull, safety valves adjusted as overlap, accumulation test held, tested under working conditions and found satisfactory in every respect. W. S. Shields

Survey Fee ... £ : : When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

W. S. Shields
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 17 SEP 1943

Assigned

see minute
on 28 Rpl.



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