

Rpt. 5a.
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REPORT ON BOILERS.

No. 18454

1-8 NOV 1943

Received at London Office

3 SEP 1943

Date of writing Report 1st Sept 1943. When handed in at Local Office 2nd Sept 1943. Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL.

Date, First Survey 16th March

Last Survey 25th August 1943.

on the Steel Single Screw Rescue Tug "EARNER" 12535 (Number of Visits 17) Tons {Gross 597 Net nil

built at Selby By whom built Cochran & Sons Ltd.

Yard No. 1270 When built 1943

Engines made at HULL

By whom made Messrs C.D. HOLMES & CO.

Engine No. 1647 When made

Boilers made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS.

Boiler No. R361 When made 1943.

Nominal Horse Power

Owners Admiralty

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs Babcock & Wilcox Ltd. Glasgow.

(Letter for Record S.

Total Heating Surface of Boilers 3550 sq ft

Is forced draught fitted Yes.

Fuel or Oil fired Oil

No. and Description of Boilers 1 single ended multitubular

Working Pressure 210 lbs.

Tested by hydraulic pressure to 365 lbs Date of test 25-8-43 No. of Certificate 4007 Can each boiler be worked separately -

Area of Firegrate in each Boiler OIL FIRED No. and Description of safety valves to each boiler Two spring loaded high lift

Area of each set of valves per boiler {per Rule 16.14 as fitted 16.59

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 24"

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 Yes

Largest internal dia. of boilers 17'-0"

Length 11'-6"

Shell plates: Material Steel

Tensile strength 31-35 tons

Thickness 1 1/2" Are the shell plates welded or flanged No.

Description of riveting: circ. seams end D.R. LAP.

long. seams T.P. Double butt strap Diameter of rivet holes in {circ. seams 1 3/16" long. seams 1 1/2"

Pitch of rivets {3 1/2" 10 1/2"

Percentage of strength of circ. end seams {plate 62.2 rivets 43.

Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 84.8 rivets 86.7 combined 86.9

Thickness of butt straps {outer 1 1/8" inner 1 1/4"

No. and Description of Furnaces in each Boiler 3 corrugated 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 3/4" bottom 3/4"

Description of longitudinal joint welded.

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

End plates in steam space: Material Steel

Tensile strength 26-30 tons Thickness 1 3/16"

Pitch of stays 20 3/4" x 16"

How are stays secured Double nuts and washers.

Tube plates: Material {front Steel back Steel

Tensile strength {26-30 tons 26-30 tons

Thickness {1 5/16" 1 3/16"

Mean pitch of stay tubes in nests 10 5/8" x 8 1/2" Pitch across wide water spaces 13 1/2"

Girders to combustion chamber tops: Material Steel

Tensile strength 29-33 tons

Depth and thickness of girder

at centre 9 x 13 3/4" 2-3/8" length as per Rule 2'-8 3/32"

Distance apart 9 3/4"

in each 3 @ 7 3/4"

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons

Thickness: Sides 2 3/32"

Back 2 3/32"

Top 1 1/6"

Bottom 7/8"

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

Front plate at bottom: Material Steel

Tensile strength 26-30 tons

Thickness 1 5/16"

Lower back plate: Material Steel

Tensile strength 26-30 tons

Thickness 2 1/32"

Pitch of stays at wide water space 13 3/4" x 8 3/8"

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"

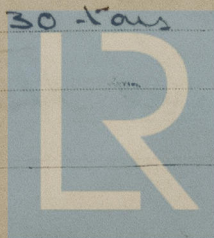
No. of threads per inch 6

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 Yes Margin stays: Diameter { At turned off part, 2" or Over threads 2"

No. of threads per inch 9

Tubes: Material L.W. 1801 External diameter { Plain 3" Stay 3" Thickness { 8WG 5/16" 3/8" 7/16" No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 1/4" Manhole compensation: Size of opening 16 x 12

shell plate 16 x 12 Section of compensating ring 3'-0" x 2'-4 1/2" x 1 1/2" No. of rivets and diameter of rivet holes 32 @ 1 1/2"

Outer row rivet pitch at ends 10 1/16" Depth of flange if manhole flanged 1 1/2" 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 from the boiler _____

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 _____

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, _____ Manufacturer _____

Dates of Survey { During progress of work in shops - - Mar. 16, 18, 24, 27, July 7, 15, 16, 20, 31 Are the approved plans of boiler and accessories in accordance with _____ (If not state date of approval.) H-5-H7

while building { During erection on board vessel - - 26 Aug. 11, 13, 16, 18, 20, 24, 25 Total No. of visits 17

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. R360 RPKC 18413

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey - and in accordance with the approved plan for a working pressure of 210 lbs per square inch. The materials and workmanship have been found good. Upon completion the boiler was tested in the presence of the undersigned by a hydraulic pressure of 365 lbs per square inch, showed no signs of weakness and was found tight and sound in every respect at that pressure. It is being despatched to Hull for fitting on board.

Above boiler installed on the Rescue tug "EARNER" at Hull, safety valves adjusted to 210 lbs, accumulation test carried out and found satisfactory in every respect after all trials. W.S. Shields

Survey Fee ... £ 23 : 14 : 0 When applied for, 2nd Sept. 1943

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

Supervision of Specification, See Maly. Rpt.

Arthur W. Osgood
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

Assigned See Hul. Jc. Rpt. 52200