

REPORT ON BOILERS.

No. 22433.

Received at London Office

13 JUL 1944

Date of writing Report 30th JUNE 1944. When handed in at Local Office 30th JUNE 1944. Port of Greenock

No. in Survey held at Greenock Date, First Survey 15th JULY 1943. Last Survey 30th JUNE 1944.

on the EMPIRE. TALISMAN (Number of Visits ✓) Gross Tons 7201 Net Tons 4946

built at Port Glasgow By whom built Lithgows Ltd. Yard No. 997 When built 1944

Engines made at Glasgow By whom made Harland & Wolff. Engine No. 8370 When made 1944

Boilers made at Main Glasgow By whom made Fairfield S.E. & Co Ltd Boiler No. 505667 2/71 When made 1944

Nominal Horse Power 560 Owners Ministry of War Transport Port belonging to Greenock

MULTITUBULAR BOILERS ~~MAIN~~, AUXILIARY, OR ~~DONKEY~~.

Manufacturers of Steel Colvilles Ltd. (Letter for Record S)

Total Heating Surface of Boilers 2448 Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers One Cylindrical Multitubular Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 12.1.44 No. of Certificate 2367 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 56.3 No. and Description of safety valves to each boiler 2. Spring loaded - High Lift

Area of each set of valves per boiler 7.8 Pressure to which they are adjusted 220 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 4'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2'-3" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-0 1/16" Length 11'-6" Shell plates: Material S Tensile strength 29/33 tons

Thickness 1 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end R.R.

long. seams T.R.D.B.S. Diameter of rivet holes in 1 1/2" Pitch of rivets 4.073"

Percentage of strength of circ. end seams plate 63 Percentage of strength of circ. intermediate seam plate 85.6

Percentage of strength of longitudinal joint plate 85.6 combined 88.3

Thickness of butt straps outer 1 1/8" No. and Description of Furnaces in each Boiler 3 Corrugated Right Section

Material S Tensile strength 26/30 tons Smallest outside diameter 3'-9 3/8"

Length of plain part top 11'-6" Thickness of plates bottom 1 1/16" Description of longitudinal joint Weld

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

End plates in steam space: Material S Tensile strength 26/30 tons Thickness 1 1/32" Pitch of stays 19 1/2" x 19 1/2"

How are stays secured Round nuts and washers

Tube plates: Material front S Tensile strength 26/30 tons Thickness 1"

Mean pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 14"

Girders to combustion chamber tops: Material S Tensile strength 29/33 tons Depth and thickness of girder 10 1/2"

at centre 10 1/4" x 1 5/8" Length as per Rule 2'-9 13/32" Distance apart 10 1/2" No. and pitch of stays 3 - 8 1/2"

Tensile strength 26/30 tons Thickness: Sides 25/32" Back 3/4" Top 25/32" Bottom 7/8"

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

Front plate at bottom: Material S Tensile strength 26/30 tons Thickness 1"

Lower back plate: Material S Tensile strength 26/30 tons Thickness 1 1/16"

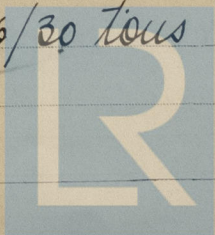
Pitch of stays at wide water space 14 1/4" x 9" Are stays fitted with nuts or riveted over Nuts

Main stays: Material S Tensile strength 28/32 tons

Diameter At body of stay 3 3/8" No. of threads per inch 6

Screw stays: Material S Tensile strength 26/30 tons

Diameter At turned off part 1 7/8" No. of threads per inch 9



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Are the stays drilled at the outer ends

40.

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

2"

No. of threads per inch

9.

Tubes: Material W.L.

External diameter

Plain Stay

3"

Thickness

8.12.4. 5/16" 3/8"

No. of threads per inch

9

Pitch of tubes

4 1/2" x 4 1/4"

Manhole compensation: Size of opening

shell plate

In end plate

Section of compensating ring

No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends

Depth of flange if manhole flanged

Steam Dome: Material

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, Rankine & Blackmore Ltd.

M. Caldwell

Managing Director. Manufacturer.

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

SEE MACHY 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

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

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

This boiler has been built under Special Survey, in accordance with the Rules and the approved plans. The materials and workmanship are good. The Ministry of War Transport Specification has been supervised for Recommendation please see Machinery Report.

Survey Fee ...

Travelling Expenses (if any)

Charged on Machinery Report

When applied for,

19

When received,

19

M. Caldwell

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

17 JUL 1944

Assigned



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