

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 Lithgous 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. 505067 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 casing 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 63 Percentage of strength of circ. intermediate seam 85.6

Percentage of strength of longitudinal joint 85.6 Thickness of butt straps 1 1/8"

No. and Description of Furnaces in each Boiler 3 Corrugated Reighton Section

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

Length of plain part 11/16" Thickness of plates 11/16" 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 Reuble nuts and washers.

Tube plates: Material S Tensile strength 26/30 tons Thickness 1 1/32"

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 15/16"

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 5/8" 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 15/16"

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, or Over threads 3 3/8" No. of threads per inch 6

Screw stays: Material S Tensile strength 26/30 tons

Diameter: At turned off part, or Over threads 1 7/8" 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,} 2" or ^{Over threads}

No. of threads per inch 9.

Tubes: Material W.L. External diameter ^{Plain} 3" Thickness ^{S.W.G.} 5/16" 3/8" No. of threads per inch 9

Pitch of tubes 4 1/8" x 4 1/4" Manhole compensation: Size of opening in 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,
Rankin & Blackmore Ltd. Manufacturer.
M. Caldwell Managing Director.

Dates of Survey ^{During progress of work in shops - -} _____ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) _____

^{while building} ^{During erection on board vessel - - -} _____

SEE MACHY REPORT.

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 ... Charged on Machinery Report! When applied for, 19 _____

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

M. Caldwell
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 17 JUL 1944

Assigned _____

