

AUXILIARY REPORT ON BOILERS.

No. 3157

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Survey Report 31st March 1945 When handed in at Local Office 31st March 1945 Port of PORT SAID

Survey held at HAIFA AND PORT SAID Date, First Survey 22-9-43 Last Survey 13-11-1944

on the Steel Screw Steamer **TRIPOLITANIA** (Number of Visits 8) Tons { Gross 2353
Net 1343

Built at Sunderland By whom built Swan, Hunter & Wigham Richardson Yard No. _____ When built 1918-10

made at Newcastle By whom made Swan, Hunter & Wigham Richardson Engine No. ✓ When made 1918

RY made at Not known By whom made Not known Boiler No. 4453 When made not known

Horse Power _____ Owners Ministry of War Transport Port belonging to LONDON (British Flag)

TITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Not known (Letter for Record _____)

Heating Surface of Boilers 940 sq. feet approx. Is forced draught fitted yes. Coal or Oil fired Oil.

Kind Description of Boilers One S.E. Cylindrical Multitubular Aux. Boiler Working Pressure 180 lbs/□"

Tested by hydraulic pressure to 320 lbs/□" Date of test 4/6/44 No. of Certificate ✓ Can ~~the~~ boiler be worked separately yes.

No. of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Two ordinary - as per Rules.

Pressure of each set of valves per boiler { per Rule 6.0 sq. inches as fitted 8.86. " " Pressure to which they are adjusted 180 lbs/□" Are they fitted with easing gear yes

~~of donkey boilers~~, state whether steam from main boilers can enter the ~~donkey~~ AUX. boiler yes.

Least distance between boilers or uptakes and bunkers 19" Is oil fuel carried in the double bottom under boilers yes

Least distance between shell of boiler and tank top plating 22" Is the bottom of the boiler insulated yes.

Least internal dia. of boilers 9'-2" Length 8'-5" Shell plates: Material Steel Tensile strength 28/32 (assumed)

Thickness .875" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double inter. ✓

Seams Treble riveted double butt straps Diameter of rivet holes in { circ. seams 1.031" Pitch of rivets { 3.25" long. seams 1.031" 6.875"

Percentage of strength of circ. end seams { plate 68.3 rivets 48.5 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 85.0 rivets 104.0 combined 91.5 Working pressure of shell by Rules 204.6 lbs per sq. inch

Thickness of butt straps { outer .45" inner .875" No. and Description of Furnaces in each Boiler Two Morrison Corrugations.

Material Steel Tensile strength 26/30T. (assumed) Smallest outside diameter 30.5"

Thickness of plain part { top ✓ bottom ✓ Thickness of plates { crown .50 bottom .50 Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace c.c. bottom 2.25" x 2.25" x .312" Working pressure of furnace by Rules 236 lbs/□"

Plates in steam space: Material Steel Tensile strength 26/30T (assumed) Thickness .906" Pitch of stays 17" x 13"

Are stays secured Nuts both sides; 10" Dia. Riv Washer .906" thick Working pressure by Rules 235 lbs per sq. inch

Stays: Material { front steel back steel Tensile strength { 26/30T (assumed) Thickness { .906"; .906" doubler w.w. space .687"

Pitch of stay tubes in nests 7.74" Pitch across wide water spaces 13.75" x 3.36" Working pressure { front 324 lbs/□" back 280 lbs/□"

Boilers to combustion chamber tops: Material Steel Tensile strength 28/32T (assumed) Depth and thickness of girder

Centre 2-plates 6.25" x .812" each Length as per Rule 23.25" Distance apart 7.875" No. and pitch of stays

Each 3-6" pitch Working pressure by Rules 238.6 lbs/□" Combustion chamber plates: Material Steel

Tensile strength 26/30T (assumed) Thickness: Sides .687" Back .625" Top .687" Bottom .687"

Pitch of stays to ditto: Sides 9.687" x 7" Back 7.42" x 7.25" Top .6" x 7.875" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 231.6 lbs/□" Front plate at bottom: Material Steel Tensile strength 26/30T (assumed)

Thickness .906" Lower back plate: Material Steel Tensile strength 26/30 (assumed) Thickness .906"; .906" doubler in w.w. space & lower long stays.

Pitch of stays at wide water space 14" x 7.25" Are stays fitted with nuts or riveted over Nuts

Working Pressure 241.3 lbs/sq. inch Main stays: Material Steel Tensile strength 28/32 (Assumed)

Grip diameter { At body of stay, 2.437 No. of threads per inch 9 Area supported by each stay 221 sq. inches

Working pressure by Rules 230 lbs/sq. inch Screw stays: Material Steel Tensile strength 26/30T (assumed)

Grip diameter { At turned off part, 2.45" No. of threads per inch 9 Area supported by each stay 47.25 sq. ins.

Over threads 1.375", 1.50"



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Working pressure by Rules *214.4* Are the stays drilled at the outer ends *No* Margin stays: Diameter *At turned off part, 1.625*
 No. of threads per inch *9* Area supported by each stay *77.06 sq. ins.* Working pressure by Rules *197.3*
 Tubes: Material *Steel* External diameter *Plain 2 1/2"* Thickness *Stay 2 1/2"* No. of threads per inch
 Pitch of tubes *6.72" x 8.375"* Working pressure by Rules *288.3 lbs/sq. inch.* Manhole compensation: Size of
 shell plate *20" x 16" (also 2 rivets on C.L.)* Section of compensating ring *14.937" x .875" effective* No. of rivets and diameter of rivet holes *38 effective, 1*
 Outer row rivet pitch at ends *4.5"* Depth of flange if manhole flanged *3"* W.P. = *179 lbs/sq. inch.* 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 Working pressure by Rules Thickness of crown No. and d
 stays Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubling plate under dome Diameter of rivet holes
 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 sh
 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 casing gear Working pressu
 Rules Pressure to which the safety valves are adjusted Hydraulic test p
 tubes forgings and castings and after assembly in place Are drain
 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, so far as could be seen.*
 The foregoing is a correct description,

 Manu

Dates of Survey *During progress of work in shops - - -* ✓ Are the approved plans of boiler and superheater forwarded herewith *No*
 while building *During erection on board vessel - - -* ✓ Total No. of visits *1* ✓
 (If not state date of approval.) *avail*

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 Auxiliary Boiler was found installed in the stokehold of the vessel (centre, forward of Main Boilers) at the commencement of the Survey for contemplated Re-classification of the Machinery. The Boiler was opened up and completely examined internally and externally, placed in good condition, found in accordance with the requirements of the Rules, and the workmanship, so far as could be seen, of good quality. - No plans were available (see Secy's cablegram 30/10/43). The boiler was drilled and rivets were removed as necessary, and the scantlings were gauged and measured by the undersigned for the purpose of this report.*

All the mountings and the safety valves were opened up, examined, placed in good order, and found in accordance with the requirements of the Rules. The boiler was subjected to an hydraulic test pressure of 320 lbs/sq. inch (Three hundred and twenty pounds per square inch), found sound and tight, subsequently examined internally, examined under steam, the safety valves adjusted to the safe working pressure of 180 lbs/sq. inch and a satisfactory test for accumulation of pressure carried out.
 Identification marks were found on the boiler as follows:-

R. 1
 No 4753
 P.P. 24.5K
 P.S. 14K-AC

This boiler is in good condition, satisfactorily installed in the vessel, and suitable, in my opinion, for a safe working pressure of 180 lbs/sq. inch (one hundred and eighty pounds per square inch) and to be classed in the Register Book with notation "New Aux boiler" (with date).

Survey Fee £E *20.000* } When applied for, *17. 11. 1944*
 Travelling Expenses (if any) £ : ✓ : } When received, *24. 11. 1944*

L. P. Mathison
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *FRI. 29 JUN 1945*
 Assigned *See Calc 3327*

