

## REPORT ON BOILERS.

No. 23434

Received at London Office.

Date of writing Report. 3<sup>RD</sup> Dec. 19.46.When handed in at Local Office. 1<sup>ST</sup> Dec. 19.46.

Port of GREENOCK.

No. in Survey held at GREENOCK.

Date, First Survey 9<sup>TH</sup> OCTOBER 1945. Last Survey 2<sup>ND</sup> DEC. 1946.

18978 on the STEEL SC. "SHAHZADA"

(Number of Visits. ✓)

Tons

Gross. 5460

Net. 3210

Built at PORT GLASGOW

By whom built LITHGOW &amp; SONS, LTD.

Yard No. 1013. When built 1946.

Engines made at GREENOCK.

By whom made RANKIN &amp; BLACKMORE, LTD.

Engine No. 515. When made 1946.

Boilers made at GREENOCK.

By whom made RANKIN &amp; BLACKMORE, LTD.

Boiler No. 515. When made 1946.

Nominal Horse Power 524.

Owners ASIATIC STEAM NAV. CO. LTD.

Port belonging to LONDON.

29.11.46

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14330

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## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES, LTD.

(Letter for Record (S). ✓)

29.10.46

11.11.46

Total Heating Surface of Boilers 7425  $\text{sq. ft.}$  ✓

Is forced draught fitted YES. ✓

Coal or Oil fired COAL. ✓

No. and Description of Boilers 3. S.E. MULTITUBULAR CYLINDRICAL. ✓

Working Pressure 230  $\text{lbs. sq. in.}$  ✓Tested by hydraulic pressure to 395  $\text{lbs. sq. in.}$  ✓

Date of test 18.9.46. ✓

No. of Certificate 2437. ✓

Can each boiler be worked separately YES. ✓

Area of Firegrate in each Boiler 54  $\text{sq. ft.}$  ✓

No. and Description of safety valves to each boiler 2 COOKBURGH IMPROVED HIGH LIFT. ✓

Area of each set of valves per boiler 6.48  $\text{sq. in.}$  ✓as fitted 7.95  $\text{sq. in.}$  ✓Pressure to which they are adjusted 230  $\text{lbs. sq. in.}$  ✓ Are they fitted with easing gear YES. ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler NO DONKEY BOILER. ✓

Smallest distance between boilers or uptakes and bunkers or woodwork NO SIDE BUNKERS ✓

Is oil fuel carried in the double bottom under boilers. No. ✓

Smallest distance between shell of boiler and tank top plating 24" ✓

Is the bottom of the boiler insulated YES. ✓

Largest internal dia. of boilers 15' 7 13/32" ✓

Length 12' 3" MEAN. ✓

Shell plates: Material STEEL ✓

Tensile strength 29/33 T. ✓

Thickness 1 19/32" ✓

Are the shell plates welded or flanged No. ✓

Description of riveting: circ. seams ✓

Long. seams T.R. DBS. ✓

Diameter of rivet holes in ✓

circ. seams 1 9/16" ✓

long. seams 1 9/16" ✓

Pitch of rivets ✓

end. D.R. ✓

inter. 4 1/4" ✓

plate. 10 7/16" ✓

rivets. ✓

Percentage of strength of circ. end seams ✓

plate. 63.2 % ✓

rivets. 45.01 % ✓

plate. 85.03 % ✓

rivets. 85.71 % ✓

combined 87.25 % ✓

Percentage of strength of circ. intermediate seam ✓

plate. ✓

rivets. ✓

Percentage of strength of longitudinal joint ✓

plate. ✓

rivets. ✓

combined ✓

Working pressure of shell by Rules. ✓

Thickness of butt straps ✓

outer 1 1/4" ✓

inner 1 3/8" ✓

No. and Description of Furnaces in each Boiler 3 - DEIGHTON CORRUGATED SECTION. ✓

Material STEEL. ✓

Tensile strength 26/30 T. ✓

Smallest outside diameter 3' 9 7/8" (3' 10 5/8" DRAWING) ✓

Length of plain part ✓

top ✓

bottom ✓

Thickness of plates ✓

crown 13/16" ✓

bottom 13/16" ✓

Description of longitudinal joint WELDED. ✓

Dimensions of stiffening rings on furnace or c.c. bottom NONE. ✓

Working pressure of furnace by Rules 261.5  $\text{lbs. sq. in.}$  - 257.4  $\text{lbs. sq. in.}$  ✓

Head plates in steam space: Material STEEL. ✓

Tensile strength 26/30 T. ✓

Thickness 1.5" ✓

Pitch of stays 22 1/2" x 19 1/2" ✓

How are stays secured DOUBLE NUTS &amp; WASHERS ✓

Working pressure by Rules. ✓

Tube plates: Material ✓

front. STEEL. ✓

back. STEEL. ✓

Tensile strength 26/30 T. ✓

Thickness 1.0" ✓

Pitch of stays 22 1/2" x 19 1/2" ✓

Working pressure by Rules. ✓

Mean pitch of stay tubes in nests 9.235 / 10" ✓

Pitch across wide water spaces 13 3/4" x 8" ✓

Working pressure by Rules. ✓

front. 1.0" ✓

back. 1.0" ✓

Orders to combustion chamber tops: Material STEEL. ✓

Tensile strength 29/33 T. ✓

Depth and thickness of girder ✓

centre 12 1/2" x 1 5/8" ✓

Length as per Rule 3' 5 13/16" ✓

Distance apart 10" ✓

No. and pitch of stays ✓

each 4 @ 8 1/2" ✓

Working pressure by Rules. ✓

Combustion chamber plates: Material STEEL. ✓

Tensile strength 26/30 T. ✓

Thickness: Sides 25/32" ✓

Back 25/32" ✓

Top 25/32" ✓

Bottom 7/8" ✓

Pitch of stays to ditto: Sides 9" x 10 1/8" ✓

Back 9" x 10" ✓

Top 8 1/2" x 10" ✓

Are stays fitted with nuts or riveted over NUTS. ✓

Working pressure by Rules. ✓

Front plate at bottom: Material STEEL. ✓

Tensile strength 26/30 T. ✓

Thickness 1.0" ✓

Lower back plate: Material STEEL. ✓

Tensile strength 26/30 T. ✓

Thickness 29/32" ✓

Pitch of stays at wide water space 1' 2" x 9" ✓

Are stays fitted with nuts or riveted over NUTS. ✓

Working pressure. ✓

Main stays: Material STEEL. ✓

Tensile strength 28/30 T. ✓

Diameter ✓

At body of stay ✓

or 2 @ 3" &amp; 10 @ 3 5/8" ✓

No. of threads per inch 6. ✓

Area supported by each stay ✓

Working pressure by Rules. ✓

Screw stays: Material STEEL. ✓

Tensile strength 26/30 T. ✓

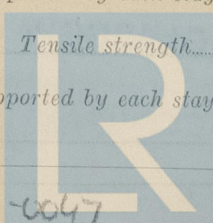
Diameter ✓

At turned off part. ✓

or 2" ✓

No. of threads per inch 9. ✓

Area supported by each stay ✓

Lloyd's Register  
Foundation

004170-004176-0047



Working pressure by Rules. Are the stays drilled at the outer ends. No. Margin stays: Diameter { At turned off part. Over threads. 2 1/8

No. of threads per inch 9. Area supported by each stay. Working pressure by Rules.

Tubes: Material SOLID DRAWN STEEL External diameter { Plain 2 3/4 Stay 2 3/4 Thickness { S.W.G. INNER STAY TUBES 3/8 No. of threads per inch 9

Pitch of tubes 4" x 4" Working pressure by Rules. Manhole compensation: Size of opening

shell plate 16" x 12" Section of compensating ring 2'-9" x 2'-5" x 1 1/2" No. of rivets and diameter of rivet holes 28 RIVETS - 1 9/16" HOLES

Outer row rivet pitch at ends 10 7/16 Depth of flange if manhole flanged 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 diameter

stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet holes and

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

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 Working pressure at

Rules Pressure to which the safety valves are adjusted Hydraulic test press

tubes forgings and castings and after assembly in place Are drain cock

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

The foregoing is a correct description,  
RANKIN & BLACKMORE LTD.  
Managing Director

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

SEE ACCOMPANYING MACHINERY 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. YES. If so, state Vessel's name and Report No. SS. NURANI, GREENOCK REPORT No. 21689 SS. SHAHJEHAN, GREENOCK REPORT No. 23401

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special Survey, & in accordance with the Rules & the Approved Plans.

The materials & workmanship are good, & the boilers have been securely fitted in the vessel.

For Recommendations please refer to the Machinery Report.

Survey Fee CHARGED ON £ : : } When applied for, 19.....

MACHINERY REPORT.

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

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW

Assigned. SEE ACCOMPANYING MACHINERY REPORT.