

REPORT ON BOILERS.

No. 23.401.

Received at London Office

30 OCT 1946

Date of writing Report 24.10.46. 19 When handed in at Local Office 25.10.46. 19 Port of GREENOCK.

No. in Survey held at GREENOCK
Reg. Book.Date, First Survey 21ST SEPT 1945. Last Survey 14TH OCT. 1946.

88911. on the STEEL SC: "SHANJEHAN"

(Number of Visits) Gross 5459.82
Tons Net 3209.99

Built at PORT GLASGOW. By whom built LITHGOWS, LTD.

Yard No. 1012. When built 1946.

Engines made at GREENOCK.

By whom made RANKIN & BLACKMORE, LTD.

Engine No. 514. When made 1946.

Boilers made at GREENOCK.

By whom made RANKIN & BLACKMORE, LTD.

Boiler No. 514. When made 1946.

Nominal Horse Power 524.

Owners ASIATIC STEAM NAV. CO. LTD.

Port belonging to LONDON.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES, LTD.

(Letter for Record (S).)

Total Heating Surface of Boilers 7425

Is forced draught fitted YES.

Coal or Oil fired COAL.

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

Working Pressure 230 lbs

Tested by hydraulic pressure to 395 lbs Date of test 28.5.46. 24.24.
25.6.46. 24.25.
28.6.46. No. of Certificate 24.27.

Can each boiler be worked separately YES.

Area of Firegrate in each Boiler 54.5

No. and Description of safety valves to each boiler 2 COCHBURNS IMPROVED LIFT.

Area of each set of valves per boiler { per Rule 6.48
as fitted 7.95 Pressure to which they are adjusted 230 lbs W.P. 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 BOILERS.

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 3/32 Length 12'-3" MEAN. Shell plates: Material SM. STEEL Tensile strength 29/33 T.

Thickness 1 19/32 Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R.
inter. ✓

long. seams TR-DBS.

Diameter of rivet holes in { circ. seams 1 9/16
long. seams 1 9/16Pitch of rivets { 4 1/4
10 7/16Percentage of strength of circ. end seams { plate 63.2 %
rivets 45.01 %Percentage of strength of circ. intermediate seam { plate ✓
rivets ✓Percentage of strength of longitudinal joint { plate 85.03 %
rivets 85.71 %
combined 87.25 %Thickness of butt straps { outer 1 1/4
inner 1 3/8

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

Material STEEL

Tensile strength 26/30 T.

Smallest outside diameter 3'-9 7/8.

Length of plain part { top ✓
bottom ✓Thickness of plates { crown 1 3/16
bottom 1 3/16

Description of longitudinal joint WELDED.

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

End plates in steam space: Material STEEL. Tensile strength 26/30 T. Thickness 1 1/2 Pitch of stays 22 1/2 x 19 1/2

How are stays secured DOUBLE NUTS & WASHERS.

Tube plates: Material { front STEEL
back STEEL.

Tensile strength 26/30 T.

Thickness { 1 1/4
29/32

Mean pitch of stay tubes in nests 9.235

Pitch across wide water spaces 13 3/4 x 8.

Girders to combustion chamber tops: Material STEEL.

Tensile strength 29/33 T.

Depth and thickness of girder

at centre 12 1/2 x 1 5/8

Length as per Rule 3'-5 13/16

Distance apart 10"

No. and pitch of stays

in each 4 @ 8 1/2

Combustion chamber plates: Material STEEL (WRAPPER PLATES SPENCER TYPE)

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.

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.

Main stays: Material STEEL.

Tensile strength 28/32 T.

Diameter { At body of stay, 2 @ 3" & 10 @ 3 5/8
Over threads ✓

No. of threads per inch 6.

Screw stays: Material STEEL

Tensile strength 26/30 T.

Diameter { At turned off part, ✓
Over threads 8"

No. of threads per inch 9.

003964-003970-0051

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Are the stays drilled at the outer ends No. ✓ Margin stays: Diameter { At turned off part, ✓
or
Over threads 2 1/8 ✓
No. of threads per inch 9 ✓
Tubes: Material SOLID DRAWN STEEL External diameter { Plain 2 3/4 ✓
Stay 2 3/4 ✓ Thickness { 8 WG. ✓
INNER STAY TUBES 5/8 No. of threads per inch 9 ✓
MARG. STAY TUBES 7/16 ✓
Pitch of tubes 4" x 4" ✓ Manhole compensation: Size of opening in
shell plate 16" x 12" Section of compensating ring 2'-9" x 2'-5" x 1 19/32 No. of rivets and diameter of rivet holes 28 - 1 9/16 HOLES ✓
Outer row rivet pitch at ends 10 7/16 ✓ Depth of flange if manhole flanged McNEIL TYPE DOOR ✓ 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.

James James Manufacturer.
DIRECTOR

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - - }
SEE 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. 21869.

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. They have been securely fitted in the vessel, & Safety valves adjusted under steam to 230 lbs. w.p.
For Recommendations please refer to the Machinery Report No. 23401.

Survey Fee ... £ : : When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

Frechmann

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

29 OCT 1946

Assigned

SEE ACCOMPANYING MACHINERY REPORT



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