

REPORT ON BOILERS.

No. 17717

Received at London Office


12 DEC 1931

Date of writing Report 11-12-1931 When handed in at Local Office 11-12-1931 Port of Grimsby
No. in Survey held at Reg. Book Lincoln Date, First Survey 18-9-31 Last Survey 4-12-1931
on the Nankai Maru (Number of Visits 11) Tons Gross Net
Built at Nagasaki By whom built Mitsubishi Zosen Kaisha Ltd. Yard No. 501 When built
Engines made at By whom made Engine No. When made
Boilers made at Lincoln By whom made Babcock & Wilcox Ltd. Boiler No. 83/4622 When made 1931
Owners Port belonging to

VERTICAL DONKEY BOILER.

Made at Lincoln By whom made Babcock & Wilcox Ltd. Boiler No. 73/4622 When made 1931 Where fixed
Manufacturers of Steel Colville & Co. Ltd. Markgate 108 Bldg. Frodingham 10 S. Co. Ltd.
Total Heating Surface of Boiler 500 sq. ft. Is forced draught fitted - Coal or Oil fired & EXHAUST GAS
No. and Description of Boilers One, Clarkson's Chimble Tube, back heat Working pressure 100 lbs.
Tested by hydraulic pressure to 200 lbs. Date of test 27th Nov. 1931 No. of Certificate 320
Area of Firegrate in each Boiler none No. and Description of safety valves to each boiler Two, Spring loaded barometric type
Area of each set of valves per boiler { per rule 6.55 sq. ft. pressure to which they are adjusted NOT adjusted are they fitted with easing gear See my Report
as fitted 7.96 sq. ft.
State whether steam from main boilers can enter the donkey boiler Smallest distance between boiler or uptake and bunkers
or woodwork Is oil fuel carried in the double bottom under boiler Smallest distance between base of boiler and tank top plating
Is the base of the boiler insulated Largest internal dia. of boiler 7'-0" Height 18'-9" O.A.
Shell plates: Material S. L. Steel Tensile strength 28/32 T. Thickness 7/16"
Are the shell plates welded or flanged riveted Description of riveting: circ. seams { end S.R. Lap inter S.R. long. seams D.R. D.B. straps
Dia. of rivet holes in { circ. seams 13/16" Rich of rivets { 1 1/16" Percentage of strength of circ. seams { plate 55.5% of Longitudinal joint { plate 71.5%
long. seams 13/16" rivets 2 7/8 rivets 53.5% rivets 126 combined
Working pressure of shell by rules 104 lbs. Thickness of butt straps { outer 13/32" inner 13/32"
Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished Material S. L. Steel
Tensile strength 26/30 T. Thickness 13/16" Radius 6'-3" Working pressure by rules 109 lbs.
Description of Furnace: Plain, spherical, or dished crown dished Material S. L. Steel Tensile strength 26/30 T.
Thickness 15/16" External diameter { top 4'-4 1/8" Length as per rule 8'-4" Working pressure by rules 106 lbs.
bottom 4'-4 1/8"
Pitch of support stays circumferentially - and vertically - Are stays fitted with nuts or riveted over -
Diameter of stays over thread - Radius of spherical or dished furnace crown 3'-6" Working pressure by rule 140 lbs.
Thickness of Ogee Ring 7/8" Diameter as per rule { D a Working pressure by rule 102 lbs.
Combustion Chamber: Material - Tensile strength - Thickness of top plate -
Radius if dished - Working pressure by rule - Thickness of back plate - Diameter if circular -
Length as per rule - Pitch of stays - Are stays fitted with nuts or riveted over -
Diameter of stays over thread - Working pressure of back plate by rules -
Tube Plates: Material { front - Tensile strength { - Thickness { - Mean pitch of stay tubes in nests -
back -
If comprising shell, Dia. as per rule { front - Pitch in outer vertical rows { - Dia. of tube holes FRONT { stay - BACK { stay -
back - plain - plain -
Is each alternate tube in outer vertical rows a stay tube - Working pressure by rules { front - back -
Girders to combustion chamber tops: Material - Tensile strength -
Depth and thickness of girder at centre - Length as per rule -
Distance apart - No. and pitch of stays in each - Working pressure by rule -

Crown stays: Material ✓ Tensile strength ✓ Diameter { at body of stay, ✓ or over threads, ✓
No. of threads per inch ✓ Area supported by each stay ✓ Working pressure by rules ✓
Screw stays: Material ✓ Tensile strength ✓ Diameter { at turned off part, ✓ or over threads, ✓ No. of threads per inch ✓
Area supported by each stay ✓ Working pressure by rules ✓ Are the stays drilled at the outer ends ✓
Tubes: Material S.D. mild steel ✓ External diameter { plain 3 1/4" to 2 1/4" ✓ Thickness 6 B.W.G.
No. of threads per inch ✓ Pitch of tubes 7" staggered ✓ Working pressure by rules ✓
Manhole Compensation: Size of opening in shell plate 18" ✓ Section of compensating ring 4 1/2" x 1" ✓ No. of rivets and diameter
of rivet holes 44 - 15/16" Outer row rivet pitch at ends 3-16" Depth of flange if manhole flanged 3 1/4"
Uptake: External diameter 2'-7 1/4" ✓ Thickness of uptake plate 5/8" ✓
Cross Tubes: No. External diameters { Thickness of plates

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with
The foregoing is a correct description.
Annual Survey Request.  Manufacturer.

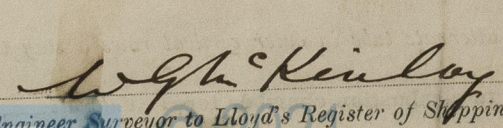
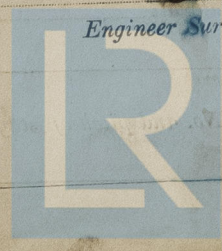
Dates of Survey { During progress of work in shops - 1931 Sept 18 to 29. 15. 23. 28 Nov 13. 17. 25. 27 Dec 4 Is the approved plan of boiler forwarded herewith no 4/9/31
while building { During erection on board vessel - - - - - (If not state date of approval.)
Total No. of visits 11

Is this Boiler a duplicate of a previous case no 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 and is accordance with the Rules and approved plan as per Secretary's letter dated 4th September, 1931. Upon completion it was tested under hydraulic pressure to 200 lbs per sq inch and found satisfactory. The materials and workmanship are good. This Boiler has now been shipped to Nagasaki.

Survey Fee ... £ 4 : 4 : } When applied for, 1-12-1931
Travelling Expenses (if any) £ 1 : 18 : 6 } When received, 31-3-1932

Committee's Minute Assigned Not for classing Committee Dec Nag. 1869


Engineer Surveyor to Lloyd's Register of Shipping.
 Lloyd's Register Foundation