

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 Reg. Book Survey held at 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. 73/4622 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 - Fuel Oil fired & EXH. GAS

No. and Description of Boilers One, Clarke's thumb tube, waste 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 marine type each 2 1/4" dia.

Area of each set of valves per boiler { per rule 6.55 sq ft as fitted 7.96 sq ft pressure to which they are adjusted NOT adjusted are they fitted with easing gear See my Report

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" 0.9

Shell plates: Material S. L. steel Tensile strength 28/32 T. Thickness 7/16"

Are the shell plates welded or flanged welded 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" long. seams 13/16" Pitch of rivets { 1 1/8" 2 7/8" Percentage of strength of circ. seams { plate 52.5% rivets 53.5% of Longitudinal joint { plate 71.5% 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" bottom 4'-4 1/8" Length as per rule 8'-4" Working pressure by rules 106 lbs

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 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 back Tensile strength { Thickness { Mean pitch of stay tubes in nests {

(See Furnace)

If comprising shell, Dia. as per rule { front back Pitch in outer vertical rows { Dia. of tube holes FRONT { stay plain BACK { stay 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,
 Manufacturer.

Annual Survey Request.

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

W. G. Kenney
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned *Not following Committee*
See Nag. 1869

