

REPORT ON BOILERS.

No. 4237.

Received at London Office 29 NOV 1928

of writing Report 30th October 1928 When handed in at Local Office 192 Port of YOKOHAMA
 in Survey held at Yokohama Date, First Survey 2nd May Last Survey 24th October 1928
 on the Steel Ss "HAGURO MARU" (Number of Visits 22) Tons { Gross 3352.63
 Net 2047.65
 Built at Yokohama By whom built Yokohama Dock Co Yard No. 171 When built 1928
 Engines made at Yokohama By whom made Yokohama Dock Co Engine No. 171 When made 1928
 Boilers made at Yokohama By whom made Yokohama Dock Co Boiler No. 171 When made 1928
 Indicated Horse Power 387 Owners Itaya Shosen Kaisha Port belonging to Fuchu

LTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR ~~DONKEY~~.

Manufacturers of Steel David Colville & Son Ltd Glasgow. (Letter for Record 5)
 Heating Surface of Boilers 5530 sq ft. Is forced draught fitted Yes. Coal or Oil fired Coal
 and Description of Boilers 2. Single Ended Working Pressure 200 lb.
 Tested by hydraulic pressure to 350 lb. Date of test 10-9-28 No. of Certificate 17918 Can each boiler be worked separately Yes.
 of Firegrate in each Boiler 61.8 sq ft. No. and Description of safety valves to each boiler 2. Spring loaded
 of each set of valves per boiler { per Rule 16 sq in. Pressure to which they are adjusted 205 lb. Are they fitted with easing gear Yes.
 as fitted 19.2 sq in.
 of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes.
 Least distance between boilers or uptakes and bunkers or woodwork 19" Is oil fuel carried in the double bottom under boilers No.
 Least distance between shell of boiler and tank top plating 19" Is the bottom of the boiler insulated Yes.
 Least internal dia. of boilers 15'6" Length 12'0" Shell plates: Material Mild Steel Tensile strength 28-32 tons
 Thickness 1 7/16" Are the shell plates welded or flanged Yes. Description of riveting: circ. seams { end Double riveted lap joint
 inter. 1 1/2"
 seams double butt strap Diameter of rivet holes in { circ. seams 1 1/2" Pitch of rivets { 10 7/8"
 long. seams 1 1/2"
 Percentage of strength of circ. end seams { plate 66.4% Percentage of strength of circ. intermediate seam { plate 85.18%
 rivets 47.4%
 Percentage of strength of longitudinal joint { plate 93.49% Working pressure of shell by Rules 205 lb.
 rivets 89.06%
 combined 89.06%
 Thickness of butt straps { outer 1 1/8" No. and Description of Furnaces in each Boiler 3. Deighton Type 3 cf.
 inner 1 1/4" Tensile strength 26-30 tons Smallest outside diameter 4'8"
 Material Mild Steel Thickness of plates { crown 3/4" Description of longitudinal joint Yes.
 bottom 3/4"
 Positions of stiffening rings on furnace or c.c. bottom Yes. Working pressure of furnace by Rules 230 lb.
 Plates in steam space: Material Mild Steel Tensile strength 26-30 tons Thickness 19/32" Pitch of stays 17" x 20"
 Are stays secured Through plates, nuts on each side Working pressure by Rules 223 lb.
 plates: Material { front Mild Steel Tensile strength 26-30 tons Thickness { 3/4"
 back Mild Steel
 Pitch of stay tubes in nests 9.78" Pitch across wide water spaces 13 1/4" Working pressure { front 210 lb.
 back 210 lb.
 Plates to combustion chamber tops: Material Mild Steel Tensile strength 28-32 tons Depth and thickness of girder
 tre 10" x 3/4" thick Length as per Rule 36 1/2" Distance apart 8" No. and pitch of stays
3 x 8 1/2" Working pressure by Rules 256 lb. Combustion chamber plates: Material Mild Steel
 Tensile strength 26-30 tons Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1/8"
 of stays to ditto: Sides 9" x 8" Back 9 1/4" x 8 1/2" Top 8" x 8 1/2" Are stays fitted with nuts or riveted over Hub
 Working pressure by Rules 209 lb. Front plate at bottom: Material Mild Steel Tensile strength 26-30 tons
 Thickness 3/4" Lower back plate: Material Mild Steel Tensile strength 26-30 tons Thickness 3/4"
 of stays at wide water space 15" x 8 1/2" Are stays fitted with nuts or riveted over Hub
 Working Pressure 223 lb. Main stays: Material Mild Steel Tensile strength 28-32 tons
 Thickness 3"
 At body of stay, 3" No. of threads per inch 6 Area supported by each stay 350 lb.
 Over threads
 Working pressure by Rules 224 lb. Screw stays: Material Mild Steel Tensile strength 26-30 tons
 At turned off part, 1 3/4", 1 7/8", 2" & 2 1/4" No. of threads per inch 9 Area supported by each stay 79, 103, 110 & 144 sq in.
 Over threads

Working pressure by Rules 206 lb Are the stays drilled at the outer ends Yes Margin stays: Diameter 2 1/4"
 No. of threads per inch 6 Are stays supported by end stay 158 1/2" ins Working pressure by Rules 241 lb
 Tubes: Material Mild Steel External diameter 3" Thickness 7/8" & 5/16" No. of threads per inch 9
 Pitch of tubes 4 5/16" x 11 1/8" Working pressure by Rules 300 lb Manhole compensation: Size of opening in
 shell plate 1 1/2" x 22" Section of compensation 1 1/16" x 8 1/16" No. of rivets and diameter of rivet holes 40 1 1/2" Dia
 Outer row rivet pitch at ends 10 1/8" Depth of range if manhole ranged 3 1/2" Steam Dome: Material —
 Tensile strength — Thickness of shell — Description of longitudinal joint —
 Diameter of rivet holes — Pitch of rivets — Percentage of strength of joint —
 Internal diameter — Working pressure by Rules — Thickness of crown — No. and diameter of
 stays — Inner radius of crown — Working pressure by Rules —
 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 —

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 — Working pressure as per
 Rules — Pressure to which the safety valves are adjusted — Hydraulic test pressure —
 tubes — 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 23 inclusive for boilers been complied with —

The foregoing is a correct description,

G. Adly

Manufacturer.

Dates of Survey During progress of work in shops - - - MAY 24. 8. June 4. 15. 22. July 2. 5. 14.
while building - - - Aug 8. 13. 28. 29. Sept 8. 10. 13. 25. Oct 2. 9. 12. 19. 22.

Are the approved plans of boiler and superheater forwarded herewith No
 (If not state date of approval.) Reb 31-128
 Total No. of visits 22

GENERAL REMARKS

(State quality of workmanship, opinions as to class, &c.)

The boilers of this vessel have been constructed and installed in accordance with the Society's Rules and the approved plans for a working pressure of 200 lb. The materials and workmanship have been found good. The boilers are eligible in my opinion to be classed in the Register Book with record of +LMC1028.

Survey Fee £ See Inchy Report : When applied for, — 192
 Travelling Expenses (if any) £ — : When received, — 192

J. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 4 DEC 1928

Assigned see minute on Yka Rpt 4237 attached



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