

REPORT ON BOILERS.

No. 1225

Received at London Office 27 JAN 1947

Date of writing Report Dec. 28th 1946 When handed in at Local Office 19 Port of TORONTO, CANADA

No. in Survey held at Port Arthur, Ont. Date, First Survey October 8th/46 Last Survey October 26th, 1946

0041 on the S.S. "TAI HANG 4" ex "OTTAWA MAYCOVE" (Number of Visits 4)

Tons { Gross 337.94
Net 124.47

Built at Port Arthur, Ont. By whom built Port Arthur S.B. Co. Ltd. Yard No. 98 When built 1946

Engines made at Montreal, Que. By whom made Canadian Vickers Ltd. Engine No. 35100-5 When made 1945

Boilers made at Port Arthur, Ont. By whom made Port Arthur S.B. Co. Ltd. Boiler No. - When made 1945

Nominal Horse Power 73 Owners Chinese Government Supply Agency Port belonging to Shanghai

MULTITUBULAR BOILERS—MAIN, ~~MULTITUBULAR DONKEY~~

Manufacturers of Steel Steel Co. of Canada, Lukens, Etc. (Letter for Record -)

Total Heating Surface of Boilers 1331 square feet Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers 1 Single Ended Multitubular Working Pressure 200 lbs./sq. in.

Tested by hydraulic pressure to 350 lbs. Date of test 17.1.46 No. of Certificate Brit. Corp. C-307 Can each boiler be worked separately -

Area of Firegrate in each Boiler -- No. and Description of safety valves to each boiler Double Spring loaded. I.F.L. as per anti-vac.

Area of each set of valves per boiler { per Rule --
as fitted 2" dia. Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler --

Smallest distance between boilers or uptakes and bunkers or woodwork -- Is oil fuel carried in the double bottom under boilers --

Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 11'-6 15/16" Length 7'-1/8" Shell plates: Material O.H. Steel Tensile strength 29-33 tons

Thickness 1-1/32" Are the shell plates welded or flanged Riveted Description of riveting: circ. seams { end Double
inter --

Long. seams Treble TRABS. Diameter of rivet holes in { circ. seams 1-1/8" Pitch of rivets { 3-1/4"
long. seams 1-1/8" 7-13/16"

Percentage of strength of circ. end seams { plate 65.0 Percentage of strength of circ. intermediate seam { plate --
rivets 54.1 rivets --

Percentage of strength of longitudinal joint { plate 85.6 Working pressure of shell by Rules 201.5 lbs./sq. in.
rivets 91.7
combined 89.5

Thickness of butt straps { outer 25/32" No. and Description of Furnaces in each Boiler 3 - Deighton Section Corrugated
inner 29/32"

Material O.H. Steel Tensile strength 26-30 tons Smallest outside diameter 2'-9 3/4"

Length of plain part { top -- Thickness of plates { crown 1/2" Description of longitudinal joint Lap Weld
bottom -- bottom 1/2"

Dimensions of stiffening rings on furnace or c.c. bottom -- Working pressure of furnace by Rules 213.0 lbs./sq. in.

End plates in steam space: Material O.H. Steel Tensile strength 26-30 tons Thickness 1" Pitch of stays 15" x 15"

How are stays secured Inside and Outside Nuts, Stays Welded to End Plates Working pressure by Rules 205 lbs./sq. in.

Tube plates: Material { front O.H. Steel Tensile strength { 26-30 tons Thickness { 1"
back O.H. Steel 26-30 tons 25/32"

Lean pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 14" Working Pressure { front 266
back 208

Girders to combustion chamber tops: Material O.H. Steel Tensile strength 26-30 29/33, as per girder Depth and thickness of girder

At centre 2 @ 9 1/2" x 15/16" Length as per Rule 2'-10" Distance apart 10" No. and pitch of stays

Each 3 @ 8 1/2" Working pressure by Rules 207 Combustion chamber plates: Material O.H. Steel

Tensile strength 26-30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 10" x 8 1/2" Back 10" x 8 1/2" Top 10" x 8 1/2" Are stays fitted with nuts or riveted over Welded Ring Nuts & Welded Over.

Working pressure by Rules 212 Front plate at bottom: Material O.H. Steel Tensile strength 26-30 tons

Thickness 1" Lower back plate: Material O.H. Steel Tensile strength 26-30 tons Thickness 1"

Pitch of stays at wide water space 14 1/2" x 10" Are stays fitted with nuts or riveted over Welded Ring Nuts & Welded Over.

Working pressure 266 lbs./sq. in. Main stays: Material O.H. Steel Tensile strength 28-32 tons

Diameter { At body of stay 2 1/2" No. of threads per inch 6 Area supported by each stay 15" x 15" - 225 sq. in.
or --
Over threads --

Working pressure by Rules 238 lbs./sq. in. Screw stays: Material O.H. Steel Tensile strength 26-30 tons

Diameter { At turned off part, 1 1/2" and 2" No. of threads per inch 9 Area supported by each stay 8 1/2" x 10"
or --
Over threads --



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Working pressure by Rules **213 lbs./sq in.** Are the stays drilled at the outer ends **NO** Margin stays: Diameter ~~XXXXXX~~ **2"** or **2"**
 No. of threads per inch **9** Area supported by each stay **10" x 11 1/2"** Working pressure by Rules **215**
 Tubes: Material **Steel** External diameter { Plain **3"** Thickness **8 LSG** No. of threads per inch **9**
 { Stay **3"** Thickness **5/16" x 3/8"**
 Pitch of tubes **4" x 4 1/2"** Working pressure by Rules **250** Manhole compensation: Size of opening
 shell plate **1' 5-1/8" x 1'-9 1/8"** Section of compensating ring **10 1/2" x 1-1/16"** No. of rivets and diameter of rivet holes **32 - 1-3/8"**
 Outer row rivet pitch at ends **10"** Depth of flange if manhole flanged **3-3/4"** 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 **--** 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 pitch
 of rivets in outer row in dome connection to shell **--**
 Type of Superheater **--** 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 as
 Rules **--** Pressure to which the safety valves are adjusted **--** Hydraulic test pressure
 tubes **--** forgings and castings **--** and after assembly in place **--** Are drain cocks
 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,

Continuous Survey by
 British Corporation Surveyors Are the approved plans of boiler and superheater forwarded herewith **--**
 (if not state date of approval.)
 Dates of Survey { During progress of work in shops - - }
 while building { During erection on board vessel - - }
 Total No. of visits **--**

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **Montreal Report No. 6900**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This Boiler was constructed under the Special Survey of the British Corporation Surveyors to plans identical with those approved by this Society and with materials tested by the British Corporation Surveyors.**
Each end plate is made of two plates butt welded together by Union Melt Process and stress relieved.
The Boiler was hydrostatically tested to 350 lbs. per square inch, with satisfactory results, and was fitted aboard the Vessel under British Corporation Survey.
The Boiler was now examined/under steam, the safety valves adjusted, tested for accumulation, and thickness of washers noted, and all found in good order.
This Vessel is eligible in my opinion for a record of LMC 10,46.

Note See 14/3/47

Survey Fee ... See Rpt. 4. } When applied for 19
 Travelling Expenses (if any) : : } When received 19

John Stephen
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI. 21 MAR 1947**
 Assigned *See F.E. ncky. rpt.*

