

## REPORT ON BOILERS.

No. 2359

TUE. FEB. 4 - 1919

Received at London Office

Date of writing Report 19 Nov 1918 When handed in at Local Office 191 Port of Kobe  
 No. in Survey held at Osaka Date, First Survey 5<sup>th</sup> April Last Survey 25 Sept 1918  
 Req. Book. on the Twin Screw Steel Steamer "Andes Maru" (Number of Visits 11) Gross 777 2  
 Tons Net 484 6  
 Master Built at Osaka By whom built The Osaka Iron Works, Ltd. When built 1918  
 Engines made at Osaka By whom made The Osaka Iron Works, Ltd. When made 1918  
 Boilers made at do By whom made do When made do  
 Registered Horse Power 655 Owners The Osaka Shosen Kaisha Port belonging to Osaka.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.

(Letter for record 5) Total Heating Surface of Boilers 1403<sup>0</sup> Manufacturers of Steel Jno Spencer & Sons & Beighton  
 Is forced draft fitted Yes No. and Description of Boilers One S. S. Aux. blr. Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 7<sup>th</sup> June 1918  
 No. of Certificate 440 TEST Can each boiler be worked separately Yes Area of fire grate in each boiler 39.4<sup>0</sup> No. and Description of safety valves to each boiler Two direct spring Area of each valve 2<sup>3</sup>/<sub>4</sub>" Pressure to which they are adjusted 205 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 15" Mean dia. of boilers 12'-0" Length 11'-6"  
 Material of shell plates Steel Thickness 1<sup>1</sup>/<sub>8</sub>" Range of tensile strength 28-32<sup>0</sup> Are the shell plates welded or flanged No  
 Descrip. of riveting: cir. seams Double riv. long. seams Triple riv. Diameter of rivet holes in long. seams 1<sup>3</sup>/<sub>16</sub>" Pitch of rivets 8<sup>1</sup>/<sub>4</sub>" & 4<sup>1</sup>/<sub>2</sub>"  
 Width of butt straps 17<sup>1</sup>/<sub>4</sub>" x 1<sup>1</sup>/<sub>16</sub>" Per centages of strength of longitudinal joint rivets 88.0 plate 85.7 Working pressure of shell by rules 209 lbs Size of manhole in shell 12" x 16" Size of compensating ring 34" x 38" x 1<sup>1</sup>/<sub>8</sub>" No. and Description of Furnaces in each boiler Two "Beighton" Material Steel Outside diameter 47<sup>1</sup>/<sub>4</sub>" Length of plain part top bottom Thickness of plates crown 5<sup>1</sup>/<sub>8</sub>" bottom 5<sup>1</sup>/<sub>8</sub>"  
 Description of longitudinal joint Weld No. of strengthening rings Working pressure of furnace by the rules 212<sup>0</sup> Combustion chamber plates: Material Steel Thickness: Sides 2<sup>1</sup>/<sub>32</sub>" Back 2<sup>1</sup>/<sub>32</sub>" Top 2<sup>1</sup>/<sub>32</sub>" Bottom 7<sup>1</sup>/<sub>8</sub>" Pitch of stays to ditto: Sides 8<sup>1</sup>/<sub>4</sub>" x 8<sup>1</sup>/<sub>4</sub>" Back 9" x 8"  
 Top 9" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 206<sup>0</sup> Material of stays Steel Area at smallest part 1.79<sup>0</sup> Area supported by each stay 72<sup>0</sup> Working pressure by rules 223<sup>0</sup> End plates in steam space: Material Steel Thickness 1<sup>1</sup>/<sub>32</sub>"  
 Pitch of stays 17" x 17<sup>1</sup>/<sub>2</sub>" How are stays secured Double nuts Working pressure by rules 212<sup>0</sup> Material of stays Steel Area at smallest part 5.99<sup>0</sup>  
 Area supported by each stay 17" x 17<sup>1</sup>/<sub>2</sub>" Working pressure by rules 207<sup>0</sup> Material of Front plates at bottom Steel Thickness 13<sup>1</sup>/<sub>16</sub>" Material of Lower back plate Steel Thickness 13<sup>1</sup>/<sub>16</sub>" Greatest nitch of stays 14<sup>3</sup>/<sub>4</sub>" between Working pressure of plate by rules 200<sup>0</sup> Diameter of tubes 3<sup>3</sup>/<sub>4</sub>"  
 Pitch of tubes 4<sup>1</sup>/<sub>2</sub>" x 4<sup>1</sup>/<sub>2</sub>" Material of tube plates Steel Thickness: Front 13<sup>1</sup>/<sub>16</sub>" Back 13<sup>1</sup>/<sub>16</sub>" Mean pitch of stays 10<sup>3</sup>/<sub>4</sub>" Pitch across wide water spaces 14" double 7<sup>1</sup>/<sub>8</sub>" Working pressures by rules 200<sup>0</sup> Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10<sup>1</sup>/<sub>4</sub>" x 7<sup>1</sup>/<sub>8</sub>" (100) Length as per rule 34<sup>1</sup>/<sub>2</sub>" Distance apart 9" Number and pitch of Stays in each 3 @ 8"  
 Working pressure by rules 238<sup>0</sup> Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes  
 Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

UPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to  
 Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler  
 Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

The foregoing is a correct description.

Manufacturer.

Dates During progress of 3. 15. 24 Apr. 9. 22. May 1. 7 June  
 Survey work in shops - -  
 while During erection on 2. 7. 16. 25 Sept. 1918  
 building board vessel - - -

Is the approved plan of boiler forwarded herewith Sent with Report upon Andes Maru  
 Total No. of visits 11

## GENERAL REMARKS (State quality of workmanship, opinions as to class, &amp;c.)

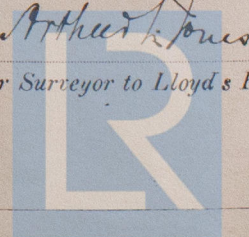
This auxiliary boiler has been made & fitted in accordance with the Rule requirements & the materials & workmanship are good. The result is in my opinion eligible for the record Aux. S.S. Blr 200 lbs.

Survey Fee Included in machinery When applied for, 191  
 Travelling Expenses (if any) \$ : : When received, 191

Committee's Minute FRI. 7-FEB. 1919

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

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