

REPORT ON WATER TUBE BOILERS.

No. 844.
TUE MAY 8 1923

Received at London Office

Date of writing Report *March 22 1923* When handed in at Local Office *March 22 1923* Port of *Adelaide S. Australia*

No. in Survey held at *Port Adelaide S.A.* Date, First Survey *June 20 1922* Last Survey *March 15 1923*
 Reg. Bk. on the *3 Water Tube Boilers Babcock & Wilcox Ltd. S.S. "ERINA"* Number of Visits *22* Tons { Gross *3345*
 Net *1908*
 Master Built at *Port Adelaide* By whom built *Poole & Steel* When built *1922.3*
 Engines made at *Port Adelaide* By whom made *Poole & Steel Ltd* When made *1922.3*
 Boilers made at *Renfrew* By whom made *Babcock & Wilcox Ltd No 476* When made *1922*
 Registered Horse Power *516* Owners *Commonwealth Line of Steamers* Port belonging to *Melbourne*

WATER TUBE BOILERS—MAIN, ~~AUXILIARY OR DONKEY~~—Manufacturers of Steel *(D. Colville & Sons Ltd, Stewart & Lloyd's Tubes)*
 (Letter for Record *65*) Date of Approval of plan *12th May 1921* Number and Description or Type
 of Boilers *3 Water Tube Babcock & Wilcox Ltd* Working Pressure *190 lbs* Tested by Hydraulic Pressure to *350 lbs* Date of Test *Sept 9.5.22*
 No. of Certificate *46* Can each boiler be worked separately *Yes* Total Heating Surface of Boilers *5289 sq ft*
 Is forced draught fitted *Assisted Area of fire grate (coal) in each Boiler 84.5 sq ft* Total grate area of boilers in vessel including
 Main and Auxiliary *263.5* No. and type of burners (oil) in each boiler *Coal* No. and description of safety valves on
 each boiler *Two* Area of each valve *9.62 sq in* Pressure to which they are adjusted *190 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 *24"* Height of Boiler *10' 4 1/2"* Width and Length *12' 7 1/2" x 13' 3 1/2"*
 Steam Drums:—Number in each boiler *One* Inside diameter *4'-0"* Material of plates *m. Steel* Thickness *3/2 & 1"*
 Range of Tensile Strength *28 to 32 Tons* Are drum shell plates welded or flanged *no* Description of riveting:—
 Cir. seams *D.R. Lap* long. seams *T.R. Lap* Diameter of rivet holes in long. seams *3/32"* Pitch of Rivets *3 3/4"*
 Lap of plate or width of butt straps *5" 1/4"* Thickness of straps *7/16"* Percentage strength of long. joint:—Plate *75-8%* Rivet *75-5%*
 Diameter of tube holes in drum *3 3/32"* Pitch of tube holes *7"* Percentage strength of shell in way of tubes *81.6%*
 If Drum has a flat side state method of staying
 (if fitted) Distance apart Number and pitch of stays in each Working pressure
 by rules *233 lbs. 9 lb.* Steam Drum Heads or Ends:—Material *m. Steel* Thickness *3/16"* Radius or how stayed *3'-6"*
 Size of Manhole or Handhole *15" x 11"* Water Drums:—Number in each boiler *One* Inside Diameter *6" 0 section*
 Material of plates *m. Steel* Thickness *3/4"* Range of tensile strength *24 to 28 Tons* Are drum shell plates welded
 or flanged *yes* Description of riveting:—Cir. seams long. seams Diameter of Rivet Holes in
 long. seams Pitch of rivets Lap of plates or width of butt straps Thickness of straps
 Percentage strength of long. joint:—Plate *43.5%* Rivet *43.5%* Diameter of tube holes in drum *3 3/64"* Pitch of tube holes *4"*
 Percentage strength of drum shell in way of tubes *Hand* Water Drum Heads or Ends:—Material *m. Steel* Thickness *3/4"*
 Radius or how stayed Size of manhole or handhole Headers or Sections:—Number *19* *one in each boiler*
 Material *m. Steel* Thickness *3/32"* Tested by Hydraulic Pressure to *540 lbs* Material of Stays
 Area at smallest part Area supported by each stay Working Pressure by Rules Tubes:—Diameter *1 1/2" 1 3/8" 1 1/2" 1 3/8"*
 Thickness *8.6 1.5.9. 9.8 1.0 1.5.8* Number *154* *240 each* Steam Dome or Collector:—Description of Joint to Shell *None*
 Percentage strength of Joint Diameter Thickness of shell plates Material
 Description of longitudinal joint Diameter of Rivet Holes Pitch of Rivets Working Pressure of shell
 by Rules Crown or End Plates:—Material Thickness How stayed

SUPERHEATER. Type *None* 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
 Is a drain cock or valve fitted at lowest point of superheater Number, diameter, and thickness of tubes
 Spare Gear. Tubes *24-1 1/2"* Gaskets or joints:—Manhole *36* Handhole *2000* Handhole plates *12*
18-3 1/2"
42 Solid Straight, Inclined & bent.

The foregoing is a correct description,

(Sgd) Babcock & Wilcox Ltd Manufacturer.

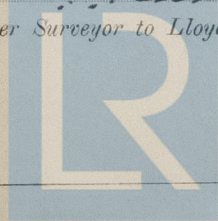
Dates of Survey } During progress of work in shops - - - *June 20.22, July 7.11.14.19.24.29. Aug. 4.8.11.25* Is the approved plan of boiler forwarded herewith
 while building } During erection on board vessel - - - *Sept. 9.5.12.18.19.22. Oct. 8.21* Total No. of visits *21*
Safety valves tested 12/3/23. Stays 15th March 1923.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The above boilers arrived from*
The Makers in parts, in good order and condition. They were put together and sections of
headers tested in shops. Connected up on board, and the whole tested to 350 water
pressure and found satisfactory. Steam drums tested in Sydney. Safety valves adjusted to
190 lbs each. In our opinion they are fit to be classed & L.M.C. with date subject to annual survey.

Survey Fee *Included in Machinery* When applied for, *191*
 Travelling Expenses (if any) *90 lbs amount paid Sydney* When received, *191*

Committee's Minute *FRI. 3 AUG. 1923*Assigned *See Adl. 246*

A. J. Armstrong
 Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register
 Foundation

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