

REPORT ON WATER TUBE BOILERS.

No. 2176

Date of writing Report **21st Dec. 1936** When handed in at Local Office 19

Received at London Office **-8 FEB 7**
Port of **WELLINGTON**

No. in Survey held at **WELLINGTON FLOATING DOCK, AND SLIP & FERRY WHARVES, WELLINGTON** Date, First Survey **4th September** Last. Survey **11th Dec. 1936**
Reg. Bl. **86336** on the **STEAMER "WAHINE"** Number of Visits **20** (Gross **4436** Tons Net **1798**)

Master **-** Built at **DUMBARTON** By whom built **W. DENNY & BROS.** When built **1913 5-mo.**
Engines made at **Dumbarton** By whom made **Denny & Co** When made **1913**
Boilers made at **Renfrew** By whom made **Babcock & Wilcox** When made **1935**
Registered Horse Power **1694 NHP** Owners **UNION STEAM SHIP CO. OF N.Z.LD** Port belonging to **LONDON**

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel

Letter for Record **6 Babcock & Wilcox Oil fired** Date of Approval of plan **200Lbs** Working Pressure **200Lbs** Tested by Hydraulic Pressure to **350** (see below) Number and Description or Type
No. of Certificate **6** Can each boiler be worked separately **YES** Total Heating Surface of Boilers **21384** ϕ Date of Test

Is forced draught fitted **Closed stoke** Area of fire grate (coal) in each Boiler **9.62** ϕ Total grate area of boilers in vessel including main and auxiliary **9.62** No. and description of safety valves on each boiler **One double spring loaded (2 valves)** Pressure to which they are adjusted **200Lbs**
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 **1'-6"** Height of Boiler **14'-9"** Width and Length **17'-6" x 12'-0"**
Steam Drums:—Number in each boiler **1** Inside diameter **3'-6"** Material of plates **STEEL** Thickness **1" & 1 1/32"**

Range of Tensile Strength **28-32 TONS** PLATES & BUTT STRAPS Are drum ends plates welded or flanged **FLANGED** Description of riveting:—
Cir. seams **DOUBLE RIV. LAP** long. seams **DOUBLE 2 BUTT STRAP** Diameter of rivet holes in long. seams **13/16"** Pitch of Rivets **3 9/32**
Lap of plate or width of butt straps **9 1/8" OUTER 8 5/8" INNER** Thickness of straps **17/32"** Percentage strength of long. joint:—Plate **74.35** Rivet **94.26**

Diameter of tube holes in drum **4"** Pitch of tube holes **7"** Percentage strength of shell in way of tubes **42.85**
If Drum has a flat side state method of staying **MUD** Depth and thickness of girders at centre
If fitted) Distance apart **13/16"** Number and pitch of stays in each **3'-0"** Working pressure

Size of Manhole or Handhole **15" x 10"** Material **STEEL** Thickness **3/4"** Range of tensile strength **NOT KNOWN** Are drum shell plates welded
Material of plates **STEEL** Thickness **3/4"** Inside Diameter **SQUARE 6" x 6" INSIDE**
Are flanged **FORGED SOLID** Description of riveting:—Cir. seams **NOT KNOWN** long. seams **NOT KNOWN** Diameter of Rivet Holes in

Percentage strength of long. joint:—Plate **NOT KNOWN** Rivet **NOT KNOWN** Thickness of straps
Percentage strength of drum shell in way of tubes **NOT KNOWN** Pitch of tube holes
Radius or how stayed **NOT KNOWN** Water Drum Heads or Ends:—Material **STEEL** Thickness **17/32"** Size of manhole or handhole **NOT KNOWN**

Material **STEEL** Thickness **17/32"** Tested by Hydraulic Pressure to **350 LBS** Material of Stays **NOT KNOWN**
Area at smallest part **NOT KNOWN** Area supported by each stay **NOT KNOWN** Working Pressure by Rules **NOT KNOWN** Tubes:—Diameter) **4" & 1/4"** TH
Thickness **1 13/16" O.D. x 10 LSG.** Number **200 4" DIA } 3000 1 13/16" DIA.** Steam Dome or Collector:—Description of Joint to Shell

Percentage strength of Joint **NOT KNOWN** Thickness of shell plates **NOT KNOWN** Material **NOT KNOWN**
Description of longitudinal joint **NOT KNOWN** Diameter of Rivet Holes **NOT KNOWN** Pitch of Rivets **NOT KNOWN** Working Pressure of shell **NOT KNOWN**

Rules **NOT KNOWN** Crown or End Plates:—Material **NOT KNOWN** Thickness **NOT KNOWN** How stayed **NOT KNOWN**
PERHEATER. Type **NIL** Date of Approval of Plan **NOT KNOWN** Tested by Hydraulic Pressure to **NOT KNOWN**
Date of Test **NOT KNOWN** Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler **NOT KNOWN**

Diameter of Safety Valve **NOT KNOWN** Pressure to which each is adjusted **NOT KNOWN** Is easing gear fitted **NOT KNOWN**
A drain cock or valve fitted at lowest point of superheater **NOT KNOWN** Number, diameter, and thickness of tubes **NOT KNOWN**
Easing Gear. Tubes **NOT KNOWN** Gaskets or joints:—Manhole **NOT KNOWN** Handhole **NOT KNOWN** Handhole plates **NOT KNOWN**

The foregoing is a correct description,

Manufacturer.

Dates of Survey: During progress of work in shops - - -
During erection on board vessel - - -

Is the approved plan of boiler forwarded herewith

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) Boilers assembled on board the vessel while lying alongside the Slip Wharf at Evans Bay, Wellington.

B & A4, B2, B3 & B4 Boilers - all pressure parts were renewed to the existing steam drums.
Boiler was renewed throughout.

The steam drums were stripped of all the mountings, all studs drawn and new studs of approved (P.T.O.)

Survey Fee ... £ 22 : - : - When applied for, **21st Dec. 1936**
Travelling Expenses (if any) £ 1 : 15 : - When received, **19**

George D. Liddell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Signed

TUE 23 FEB 1937

See other report

FRI 18 JUN 1937

FRI 18 JUN 1937



Lloyd's Register Foundation

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material were fitted. Mountings rejointed on Boilers and were in place at the time of the tests.

All these parts were assembled in an approved manner, materials and workmanship being good. The Boilers were afterwards subjected to a satisfactory hydraulic test of duration of 20 minutes as follows:-

<u>Boiler</u>	<u>Test Pressure</u>	<u>Date of Test</u>
A3	300 Lbs sq. inch	3 - 11 - 36
A4	300 " " "	6 - 11 - 36
B1	350 " " "	28 - 10 - 36
B2	300 " " "	11 - 11 - 36
B3	300 " " "	29 - 10 - 36
B4	300 " " "	22 - 10 - 36

Copies of reports and test certificates sighted and marks verified - Certificates Nos C.30356, C.30356(a), C.30356(b), C.30356(c), C.30356(d) also B.O.T. No. C.M.21065/35.

For particulars of repairs to mountings, supports and casings see my Rpt 9 2176 of even date.

Henry D. Liagett

SURVEYOR TO LLOYD'S REGISTER
WELLINGTON · N.Z.

